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RD-TM-72-5

**EXPERIMENTAL AERODYNAMIC INVESTIGATIONS OF  
CONFIGURATION SHAPE FOR RING TAIL MISSILES  
AT MACH NUMBERS FROM 0.5 TO 1.3**

C. Wayne Dahlke, AMSMI

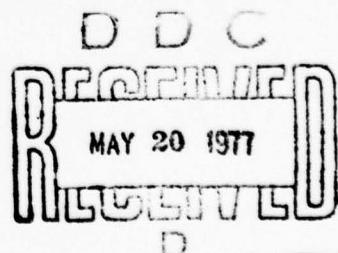
J.C. Craft, AMSMI

March 1972

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**U.S. ARMY MISSILE COMMAND**  
*Redstone Arsenal, Alabama*



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U.S. ARMY MISSILE COMMAND

WIND TUNNEL TEST DATA REPORT

CONFIGURATION: LONGITUDINALLY SUPPORTED RING TAIL MISSILE

TEST PURPOSE: Parametric Investigations of Missile Configuration

TEST FACILITY: AEDC 4-Foot Transonic (4T) Wind Tunnel

TESTING AGENCY: Army Missile Command

TEST NO. & DATE: AEDC/TC-201, January, 1972

TEST CONDUCTOR(S): C. Wayne Dahlke, J. C. Craft

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Aero Thermo Data Group

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EXPERIMENTAL AERODYNAMIC INVESTIGATIONS OF CONFIGURATION SHAPE FOR  
RING TAIL MISSILES AT MACH NUMBERS FROM 0.5 TO 1.3

By C. Wayne Dahlke & J. C. Craft

ABSTRACT

Experimental aerodynamic investigations were conducted during January, 1972 at the AEDC PWT 4T wind tunnel on approximately 20 different configurations of ring tail missiles. The more important geometric parameters considered were ring tail support strut length, strut start position, and ring tail to center-body diameter ratio. Six component aerodynamic force and moment data were recorded over an angle of attack range from  $-6^\circ$  to  $6^\circ$  at Mach numbers ranging from 0.5 to 1.3.

NOMENCLATURE  
General

<u>SYMBOL</u>	<u>SADSAC SYMBOL</u>	<u>DEFINITION</u>
$c_s$		speed of sound; m/sec, ft/sec
$C_p$	CP	pressure coefficient; $(p_1 - p_\infty)/q$
M	MACH	Mach number; $V/a$
p		pressure; N/m <sup>2</sup> , psi
q	Q(NSM) Q(PSF)	dynamic pressure; $1/2\rho V^2$ , N/m <sup>2</sup> , psf
RN/L	RN/L	unit Reynolds number; per m, per ft
V		velocity; m/sec, ft/sec
$\alpha$	ALPHA	angle of attack, degrees
$\beta$	BETA	angle of sideslip, degrees
$\psi$	PSI	angle of yaw, degrees
$\phi$	PHI	angle of roll, degrees
$\rho$		mass density; kg/m <sup>3</sup> , slugs/ft <sup>3</sup>

Reference & C.G. Definitions

A <sub>b</sub>		base area; m <sup>2</sup> , ft <sup>2</sup>
b	BREF	wing span or reference span; m, ft
c.g.		center of gravity
$\bar{L}_{\text{REF}}$	LREF	reference length or wing mean aerodynamic chord; m, ft
S	SREF	wing area or reference area; m <sup>2</sup> , ft <sup>2</sup>
	MRP	moment reference point
	XMRP	moment reference point on X axis
	YMRP	moment reference point on Y axis
	ZMRP	moment reference point on Z axis

SUBSCRIPTS

b	base
l	local
s	static conditions
t	total conditions
$\infty$	free stream

NOMENCLATURE  
(Continued)

Body-Axis System

<u>SYMBOL</u>	<u>SADSAC SYMBOL</u>	<u>DEFINITION</u>
$C_N$	CN	normal-force coefficient; $\frac{\text{normal force}}{qS}$
$C_A$	CA	axial-force coefficient; $\frac{\text{axial force}}{qS}$
$C_Y$	CY	side-force coefficient; $\frac{\text{side force}}{qS}$
$C_{A_b}$	CAB	base axial-force coefficient; $\frac{\text{base axial force}}{qS}$ $-A_b(p_b - p_\infty)/qS$
$C_{A_f}$	CAF	forebody axial force coefficient; $C_A - C_{A_b}$
$C_m$	CLM	pitching-moment coefficient; $\frac{\text{pitching moment}}{qS_l \text{REF}}$
$C_n$	CYN	yawing-moment coefficient; $\frac{\text{yawing moment}}{qS_b}$
$C_l$	CBL	rolling-moment coefficient; $\frac{\text{rolling moment}}{qS_b}$

## INTRODUCTION

The military services continue to be interested in tube launched missiles. This method of launch rules out large fixed protuberances, such as fins on the missile which are necessary for flight stabilization. One method utilized to aerodynamically stabilize missile shapes without protuberances and which is adaptable to tube launch is the adaptation of a longitudinally supported ring tail (LSRT).

There have been several wind tunnel investigations made in the past on missiles of this type, but they were directed toward system development studies or single parameter variations. There has not been an approach taken to study the various parameters with a single configuration buildup.

The test described herein was designed to provide data for several of the variables that may be considered during the design of a longitudinally supported ring tail missile. Some of these variables are: ring tail support strut length; centerbody loads; centerbody/ring diameter ratio; ring chord length and nose shape.

The basic model configuration was selected from typical tube launched missile designs which from a review study revealed that warheads generally had length to maximum diameter ratios of 3.5 to 4.0. The fore section is typically a blunted 10-15 degree half-angle cone with the aft section of the nose being conical or ogival. When the cones are used the mid section is typically a cylinder followed by a conical boattail with a half angle about the same as the fore section. Figures 1 and 2 are photographs of typical test models installed in the tunnel.

## CONFIGURATIONS INVESTIGATED

This investigation utilized one nose section,  $N_1$ ; four solid sleeves (mid sections),  $M_1$ ,  $M_2$ ,  $M_3$  and  $M_4$ ; six combinations of solid sleeve and ring tail,  $R_1$ ,  $R_2$ ,  $R_3$ ,  $R_4$ ,  $R_5$  and  $R_6$ ; five centerbodies,  $C_1$ ,  $C_2$ ,  $C_3$ ,  $C_4$  and  $C_5$ ; and one boattail,  $B_1$ . The Data Set Collation Sheets (Table II) list the various combinations the components were tested in. Figure 3 shows the detail dimensions of the nose and boattail. Figure 4 depicts the solid sleeves. Figure 5 shows the sleeve and ring tail critical dimensions and Figure 6 delineates the centerbody dimensions. Figure 7 parametrically displays the various complete configurations investigated.

## TEST FACILITY DESCRIPTION

The AEDC-PWT Aerodynamic Wind Tunnel (4T) is a closed loop, continuous flow, variable density tunnel in which the Mach number can be varied from 0.2 to 1.3. At all Mach numbers, the stagnation pressure can be varied from 200 to 3400 psfa. The test section is 4 feet square and 12.5 feet long with perforated variable porosity (0.5 to 10 percent open) walls. It is completely enclosed in a plenum chamber from which air can be evacuated allowing part of the tunnel airflow to be removed thru the perforated walls of the test section. A more thorough description of the tunnel may be found in Test Facilities Handbook (Ninth Edition) "Propulsion Wind Tunnel Facility, Vol 4," Arnold Engineering Development Center, July 1971.

## REDUCTION OF DATA

The six component aerodynamic forces and moments measured by the internal strain gage balance have been reduced to coefficient form in the body prime axis system using the following reference dimensions: (See figure 8.)

$$S_{REF} = \text{body maximum cross sectional area} = 7.068 \text{ in}^2$$

$$D = l_{REF} = b_{REF} = \text{body maximum diameter} = 3.0 \text{ inches}$$

Moments are referenced to the missile nose (station 0.0). The body prime axis system maintains the normal force and pitching moment in the pitch plane regardless of model attitude. When the model roll angle is zero the body axis system and the body prime axis system are coincident. For other roll conditions:

$$C_{N_P} = C_N \cos \phi - C_Y \sin \phi$$

$$C_{Y_P} = C_Y \cos \phi + C_N \sin \phi$$

$$CLM_P = C_{N_P} (X/l_{REF})$$

$$CYN_P = C_{Y_P} (X/b_{REF})$$

The longitudinal center of pressures (XCP) are presented as a percent of body diameter (XCP/D) with negative direction being aft of the nose; (i.e. a positive normal force gives a negative pitching moment about the missile nose). They were calculated by the equation:

$$XCP/D = C_{m_\alpha}/C_{N_\alpha}$$

with the gradients being determined between  $\pm 1.25$  degrees angle of attack.

Table I gives an estimate of the data accuracy.

TABLE I.  
DATA PRECISION

$M_\infty$	$C_N$	$C_M$	$C_A$
0.50	$\pm 0.010$	$\pm 0.040$	$\pm 0.020$
0.80	$\pm 0.006$	$\pm 0.023$	$\pm 0.012$
0.95	$\pm 0.005$	$\pm 0.021$	$\pm 0.011$
1.00	$\pm 0.005$	$\pm 0.020$	$\pm 0.010$
1.05	$\pm 0.005$	$\pm 0.019$	$\pm 0.010$
1.10	$\pm 0.005$	$\pm 0.019$	$\pm 0.010$
1.20	$\pm 0.005$	$\pm 0.018$	$\pm 0.010$
1.30	$\pm 0.005$	$\pm 0.018$	$\pm 0.009$

TEST 247-201 DATA SET/RUN NUMBER  
COLLATION SUMMARY

PRETEST       POSTTEST

TEST BWT-47-201 DATA SET/RUN NUMBER  
COLLATION SUMMARY

8

POSTTEST

POSTTEST

DATA SET IDENTIFIER	CONFIGURATION	SCRD.	PARAMETERS / VALUES										MACH NUMBERS (OR ALTERNATE INDEPENDENT VARIABLE)						
			a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	
RTR201	N <sub>1</sub> R <sub>1</sub>	A	0	0	0.23	2.5	2.5	5.0	5.0	5.0	0.3	0.5	0.8	0.95	1.0	1.05	1.10	1.20	1.30
02	N <sub>1</sub> R <sub>2</sub>	A	0	0	0.23	2.5	2.5	5.0	5.0	5.0	0.3	0.5	0.8	0.95	1.0	1.05	1.10	1.20	1.30
03		B	22.5								60	61	62	63	64	65	66	67	68
04		B	45.0								70	71	72	73	74	75	76	77	77
05	N <sub>1</sub> R <sub>2</sub>	A	0	180	1.50						86	87	88	89	90	91	92	93	
06	N <sub>1</sub> R <sub>3</sub>	A	0	0	1.50	3.25					97	98	99	100	101	102	103	104	
07	N <sub>1</sub> R <sub>4</sub>	A	0	0	0.75	4.0					183	184	185	186	187	188	189	190	
08	N <sub>1</sub> R <sub>1</sub> C <sub>2</sub>	A	0	0	2.25	3.0					207	208	209	210	211	212	213	214	
09	N <sub>1</sub> R <sub>2</sub> C <sub>1</sub>	A	0	0	2.25	2.5					246	247	248	249	250	251	252	253	
13	N <sub>1</sub> R <sub>4</sub> C <sub>1</sub>	A	0	0	1.50	3.0	2.0				296	297	298	299	300	301	302	303	
14	N <sub>1</sub> R <sub>5</sub> C <sub>1</sub>	A	0	0	2.25	3.5	4.0				346	347	348	349	350	351	352	353	
17	N <sub>1</sub> R <sub>6</sub> C <sub>2</sub>	A	0	0	2.25	4.0	7.0				396	397	398	399	400	401	402	403	
18	N <sub>1</sub> R <sub>2</sub> C <sub>2</sub>	A	0	0	1.50	3.25					446	447	448	449	450	451	452	453	
19	N <sub>1</sub> R <sub>2</sub> C <sub>2</sub>	B	0								496	497	498	499	500	501	502	503	
20	N <sub>1</sub> R <sub>2</sub> C <sub>3</sub>	A	0								546	547	548	549	550	551	552	553	
21	N <sub>1</sub> R <sub>2</sub> C <sub>4</sub>	A	0								596	597	598	599	600	601	602	603	
22	N <sub>1</sub> R <sub>6</sub> C <sub>1</sub>	A	0								646	647	648	649	650	651	652	653	
23	N <sub>1</sub> R <sub>2</sub> C <sub>5</sub>	A	0								696	697	698	699	700	701	702	703	
24	N <sub>1</sub> R <sub>2</sub> C <sub>5</sub>	A	-0.5								746	747	748	749	750	751	752	753	
25	N <sub>1</sub> R <sub>2</sub> C <sub>5</sub>	A	0								796	797	798	799	800	801	802	803	
RTR217	N <sub>1</sub> R <sub>2</sub> C <sub>5</sub>	A	0.5								846	847	848	849	850	851	852	853	
1											896	897	898	899	900	901	902	903	
7											946	947	948	949	950	951	952	953	
13											996	997	998	999	1000	1001	1002	1003	
19											1046	1047	1048	1049	1050	1051	1052	1053	
37											1096	1097	1098	1099	1100	1101	1102	1103	
43											1146	1147	1148	1149	1150	1151	1152	1153	
49											1196	1197	1198	1199	1200	1201	1202	1203	
55											1246	1247	1248	1249	1250	1251	1252	1253	
61											1296	1297	1298	1299	1300	1301	1302	1303	
67											1346	1347	1348	1349	1350	1351	1352	1353	
73											1396	1397	1398	1399	1400	1401	1402	1403	
79											1446	1447	1448	1449	1450	1451	1452	1453	
85											1496	1497	1498	1499	1500	1501	1502	1503	
91											1546	1547	1548	1549	1550	1551	1552	1553	
97											1596	1597	1598	1599	1600	1601	1602	1603	
103											1646	1647	1648	1649	1650	1651	1652	1653	
109											1696	1697	1698	1699	1700	1701	1702	1703	
115											1746	1747	1748	1749	1750	1751	1752	1753	
121											1796	1797	1798	1799	1800	1801	1802	1803	
127											1846	1847	1848	1849	1850	1851	1852	1853	
133											1896	1897	1898	1899	1900	1901	1902	1903	
139											1946	1947	1948	1949	1950	1951	1952	1953	
145											1996	1997	1998	1999	2000	2001	2002	2003	
151											2046	2047	2048	2049	2050	2051	2052	2053	
157											2096	2097	2098	2099	2100	2101	2102	2103	
163											2146	2147	2148	2149	2150	2151	2152	2153	
169											2196	2197	2198	2199	2200	2201	2202	2203	
175											2246	2247	2248	2249	2250	2251	2252	2253	
181											2296	2297	2298	2299	2300	2301	2302	2303	
187											2346	2347	2348	2349	2350	2351	2352	2353	
193											2396	2397	2398	2399	2400	2401	2402	2403	
199											2446	2447	2448	2449	2450	2451	2452	2453	
205											2496	2497	2498	2499	2500	2501	2502	2503	
211											2546	2547	2548	2549	2550	2551	2552	2553	
217											2596	2597	2598	2599	2600	2601	2602	2603	
223											2646	2647	2648	2649	2650	2651	2652	2653	
229											2696	2697	2698	2699	2700	2701	2702	2703	
235											2746	2747	2748	2749	2750	2751	2752	2753	
241											2796	2797	2798	2799	2800	2801	2802	2803	
247											2846	2847	2848	2849	2850	2851	2852	2853	
253											2896	2897	2898	2899	2900	2901	2902	2903	
259											2946	2947	2948	2949	2950	2951	2952	2953	
265											2996	2997	2998	2999	3000	3001	3002	3003	
271											3046	3047	3048	3049	3050	3051	3052	3053	
277											3096	3097	3098	3099	3100	3101	3102	3103	
283											3146	3147	3148	3149	3150	3151	3152	3153	
289											3196	3197	3198	3199	3200	3201	3202	3203	
295											3246	3247	3248	3249	3250	3251	3252	3253	
301											3296	3297	3298	3299	3300	3301	3302	3303	
307											3346	3347	3348	3349	3350	3351	3352	3353	
313											3396	3397	3398	3399	3400	3401	3402	3403	
319											3446	3447	3448	3449	3450	3451	3452	3453	
325											3496	3497	3498	3499	3500	3501	3502	3503	
331											3546	3547	3548	3549	3550	3551	3552	3553	
337											3596	3597	3598	3599	3600	3601	3602	3603	
343											3646	3647	3648	3649	3650	3651	3652	3653	
349											3696	3697	3698	3699	3700	3701	3702	3703	
355											3746	3747	3748	3749	3750	3751	3752	3753	
361											3796	3797	3798	3799	3800	3801	3802	3803	
367											3846	3847	3848	3849	3850	3851	3852	3853	
373											3896	3897	3898	3899	3900	3901	3902	3903	
379											3946	3947	3948	3949	3950	3951	3952	3953	
385											3996	3997	3998	3999	4000	4001	4002	4003	
391											4046	4047	4048	4049	4050	4051	4052	4053	
397											4096	4097	4098	4099	4100	4101	4102	4103	
403											4146	4147	4148	4149	4150	4151	4152	4153	
409											4196	4197	4198	4199	4200	4201	4202	4203	

**COEFFICIENTS:**  $\alpha = -6 \pm 5 \pm 4$ ,  $\beta = 3 \pm 2 \pm 1$ ,  $\gamma = 1.5 \pm 1.0 \pm 0.75 \pm 0.50 \pm 0.25$ ,  $\delta = 0$

IDPVAR(1) IDPVAR(2) NDV

TABLE III. INDEX OF MODEL FIGURES

<u>Figure</u>	<u>Title</u>	<u>Page</u>
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Effect of Strut Length	C	Configuration	127-128
Effect of Strut Length with Centerbody	C	Configuration	129-130
Effect of Strut Length and Centerbody Diameter	C	Configuration	131-132
Effect of Strut Length and Centerbody Length	C	Configuration	133-134
Effect of Strut Width	C	Configuration	135-136
Loads on Centerbody (with Ring)	C	Configuration	137-138
Effect of Aspect Ratio	C	Configuration	139-140
Effect of Aspect Ratio and Centerbody Diameter	C	Configuration	141-142
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Effect of Model Roll Angle	C	Roll Angle	145-152

## Plot Schedules:

A)  $C_N$ ,  $C_m$  vs.  $\alpha$ B)  $C_{N_\alpha}$ ,  $C_{m_\alpha}$ , XCP/D,  $(C_A)_{\alpha=0}$ ,  $(C_{AF})_{\alpha=0}$  vs. Mach numberC)  $C_{N_\alpha}$ ,  $C_{m_\alpha}$ , XCP/D,  $(C_A)_{\alpha=0}$  vs. Mach number

**MODEL FIGURES**

14

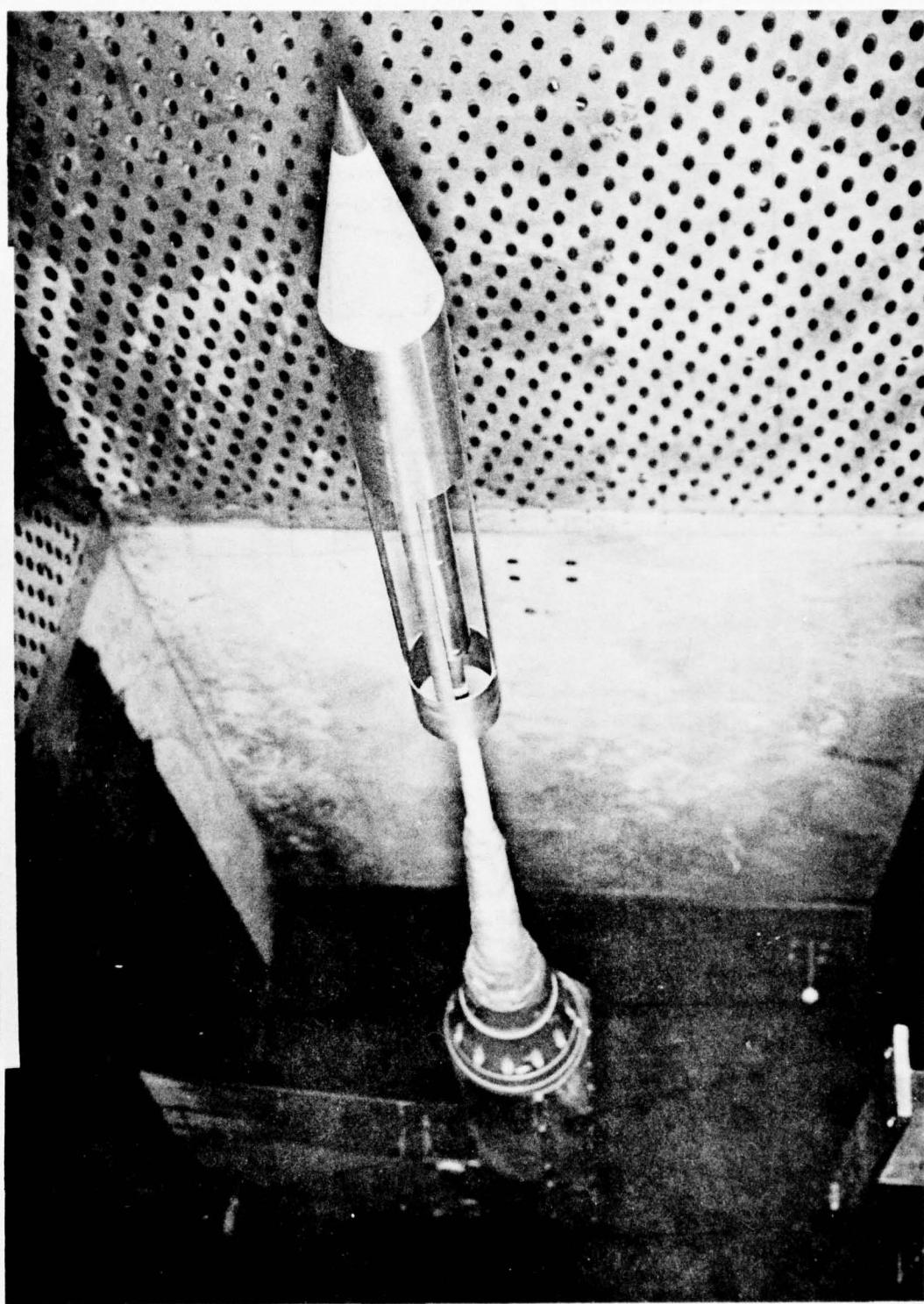


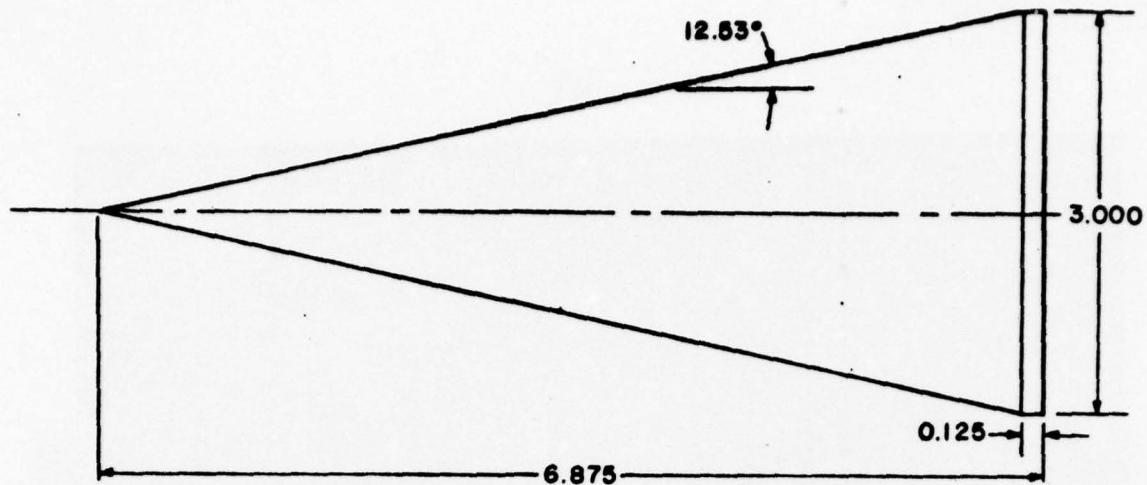
FIGURE 1. MODEL N<sub>1</sub>M<sub>2</sub>B<sub>1</sub>C<sub>1</sub> INSTALLED IN AEDC-PWT 4T WIND TUNNEL

1-3-72) PC0210 AFATL AERODYNAMIC STUDY OF MODIFIED  
RING TAIL TEST

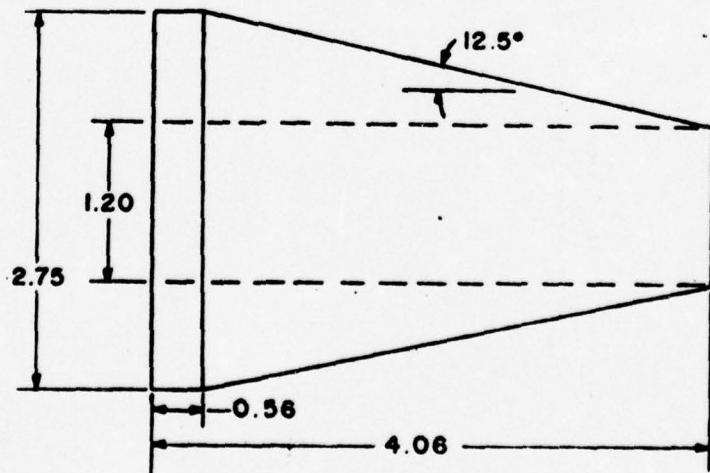
\*1 (1-4-72) PC0210

FIGURE 2. MODEL N<sub>1</sub>R<sub>1</sub>C<sub>2</sub> INSTALLED IN AEDC-PWT 4T WIND TUNNEL





**NOSE ASSEMBLY (N1)**



**BOATTAIL (B1)**

ALL DIMENSIONS IN INCHES

**FIGURE 3. NOSE, N<sub>1</sub> AND BOATTAIL B<sub>1</sub> DETAILS**

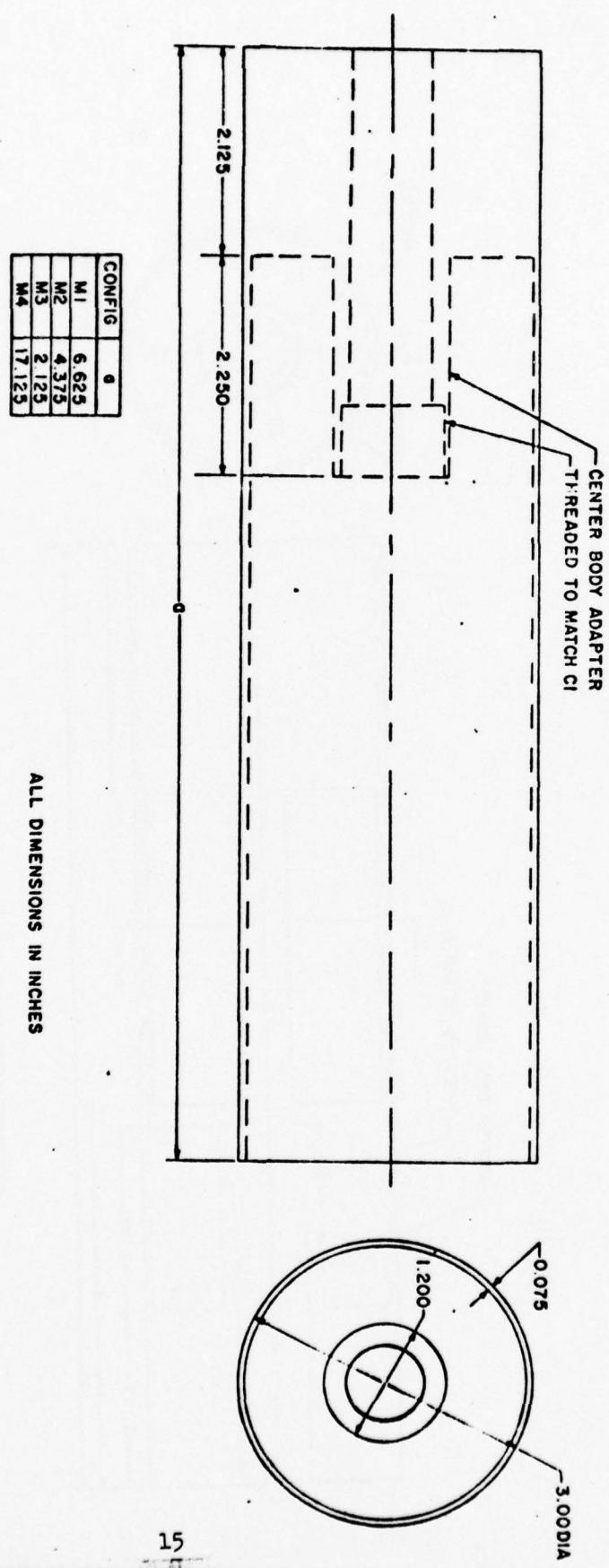
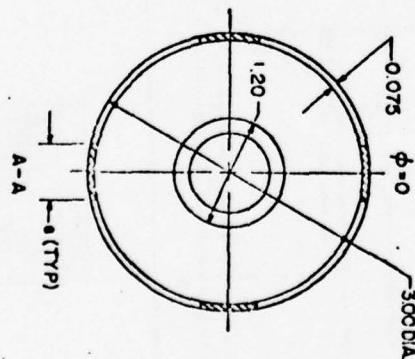
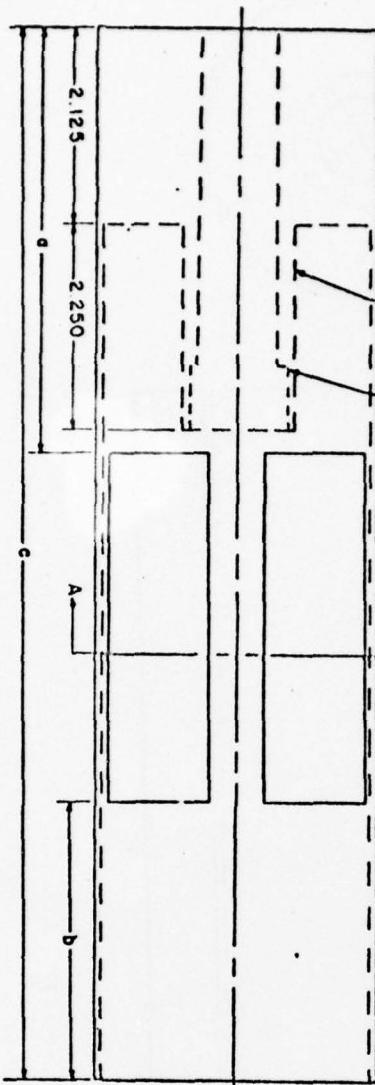


FIGURE 4. SOLID SLEEVE DETAILS

CENTER BODY ADAPTER  
THREADED TO MATCH CI

A



CONFIG	a	b	c	•
R1	6.625	3.000	17.125	0.500
R2	4.375	3.000	17.125	0.600
R3	2.125	3.000	17.125	0.500
R4	6.625	1.500	17.125	0.600
R5	6.625	3.000	17.125	1.200
R6	6.625	3.000	21.625	1.0600

ALL DIMENSIONS IN INCHES

FIGURE 5. SOLID SLEEVE WITH RING TAIL DETAILS

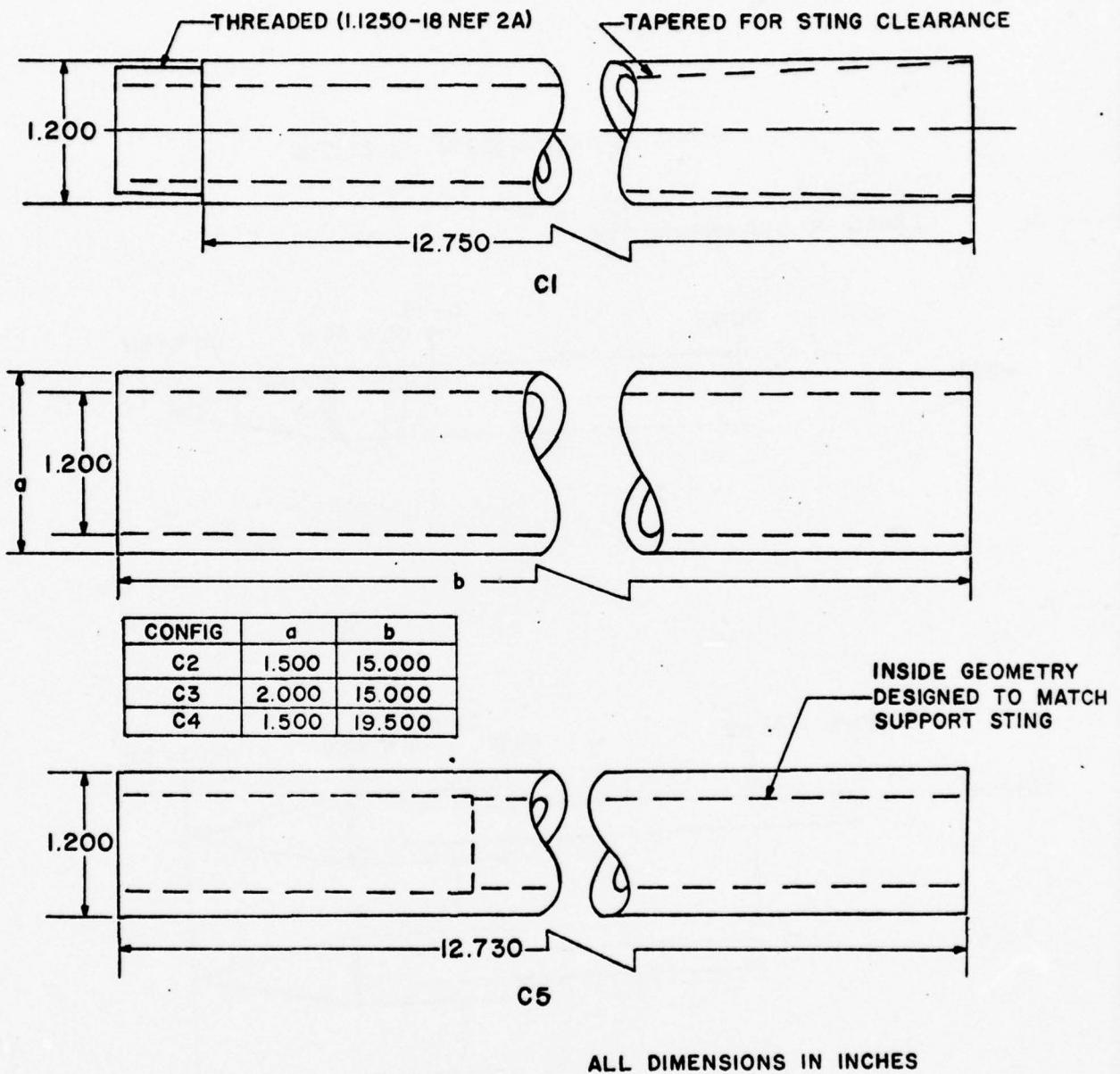
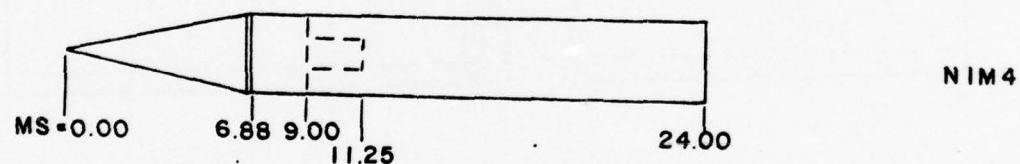
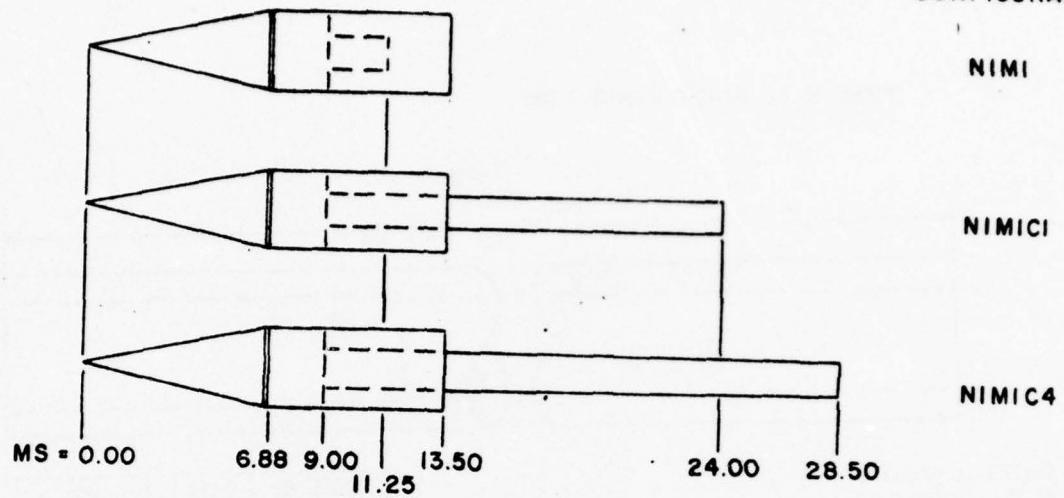


FIGURE 6. CENTERBODY DETAILS

**CONFIGURATION**

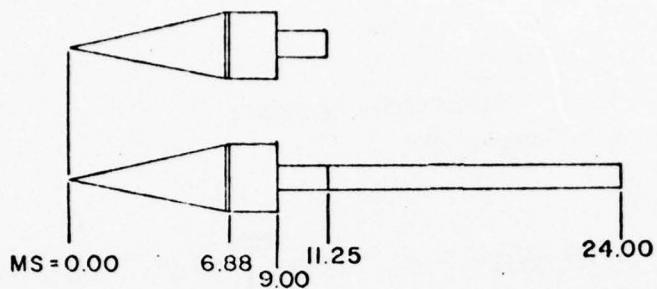


**ALL DIMENSIONS IN INCHES**

**FIGURE 7. MODEL ASSEMBLY DETAILS**

CONFIGURATION

NIM3

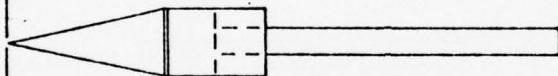


NIM3CI

NIM2



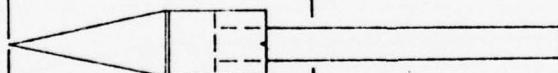
NIM2CI



NIM2CIBI



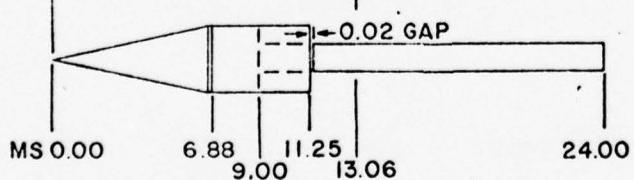
NIM2C2



NIM2C3



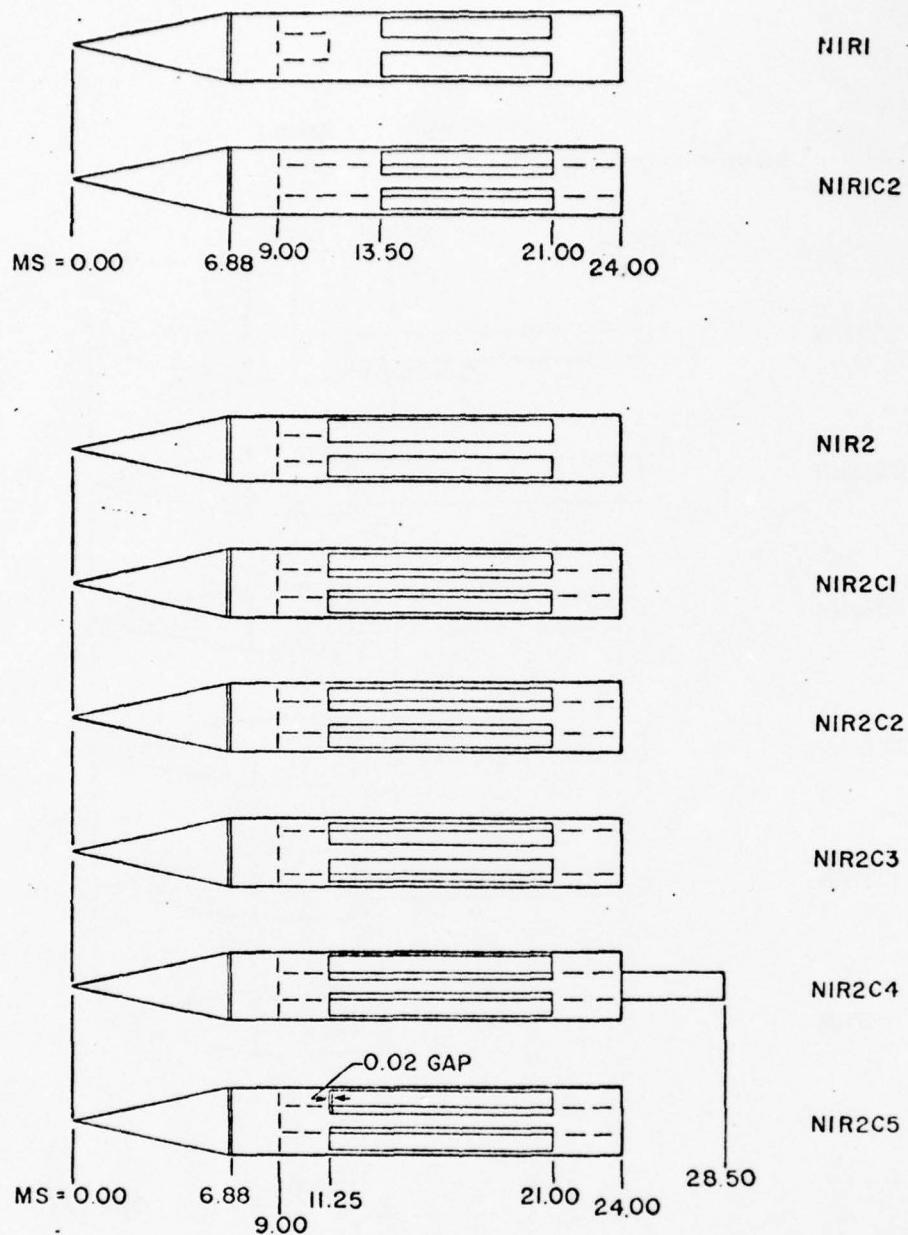
NIM2C5



ALL DIMENSIONS IN INCHES

FIGURE 7. (CONTINUED)

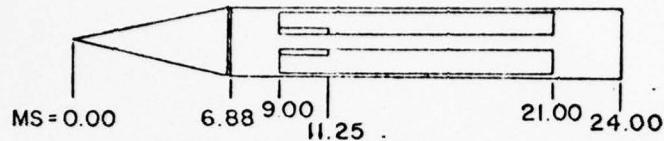
CONFIGURATION



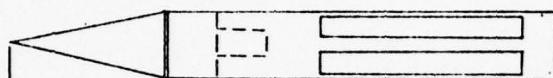
ALL DIMENSIONS IN INCHES

FIGURE 7. (CONTINUED)

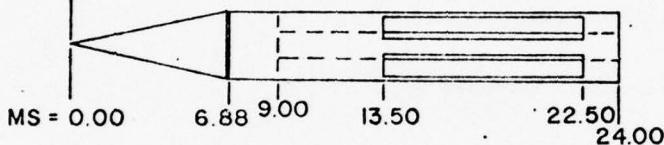
CONFIGURATION



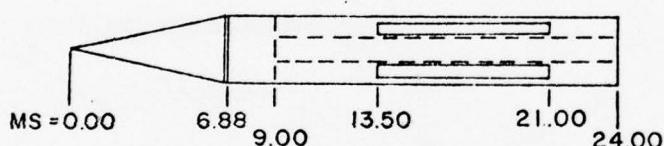
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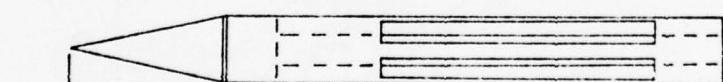
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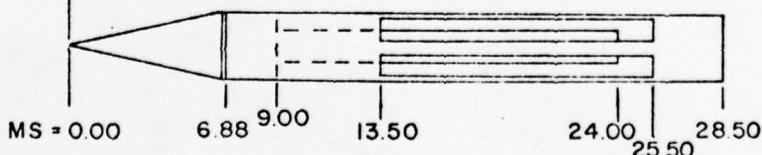
NIR4CI



NIR5CI



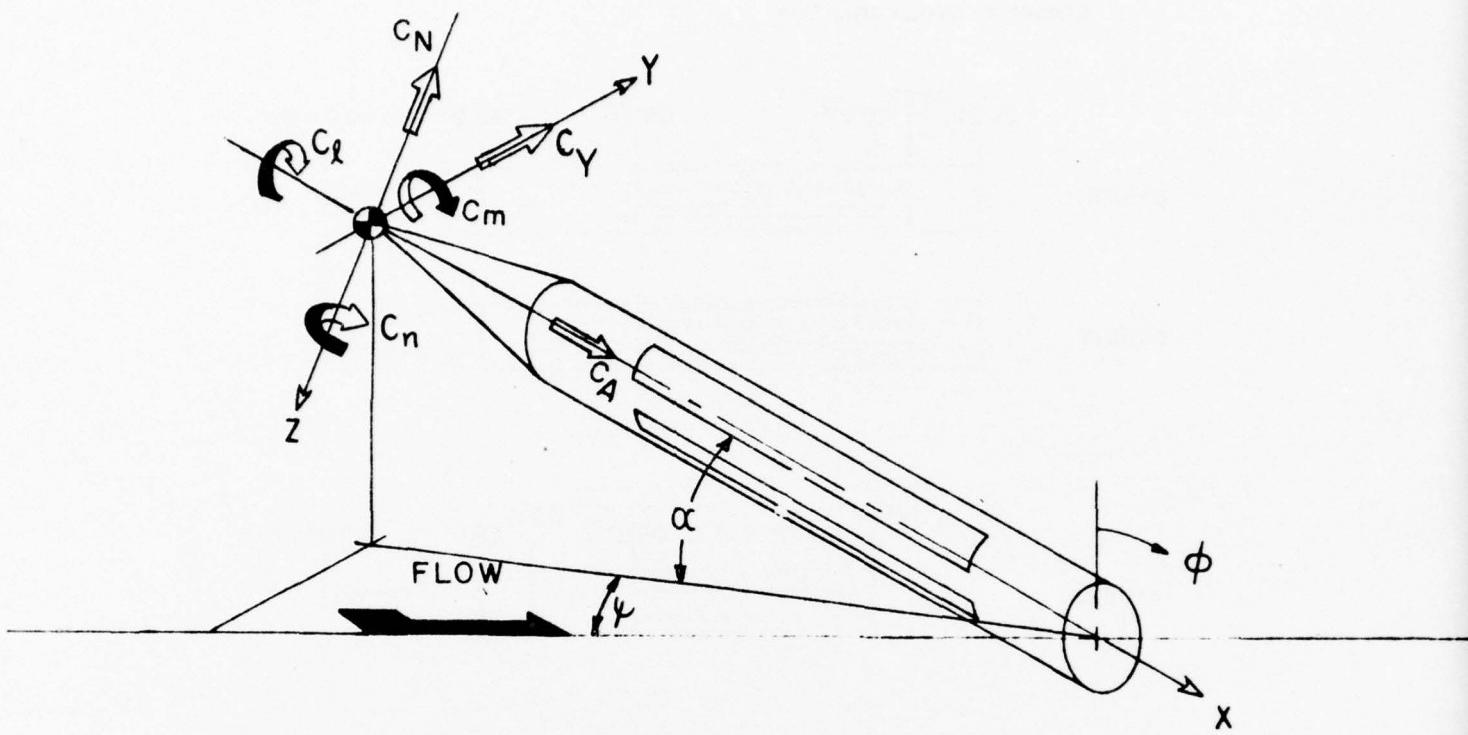
NIR6C4



NIR6C2

ALL DIMENSIONS IN INCHES

FIGURE 7. (CONTINUED)



• MOMENT REFERENCE LOCATION (NOSE APEX)

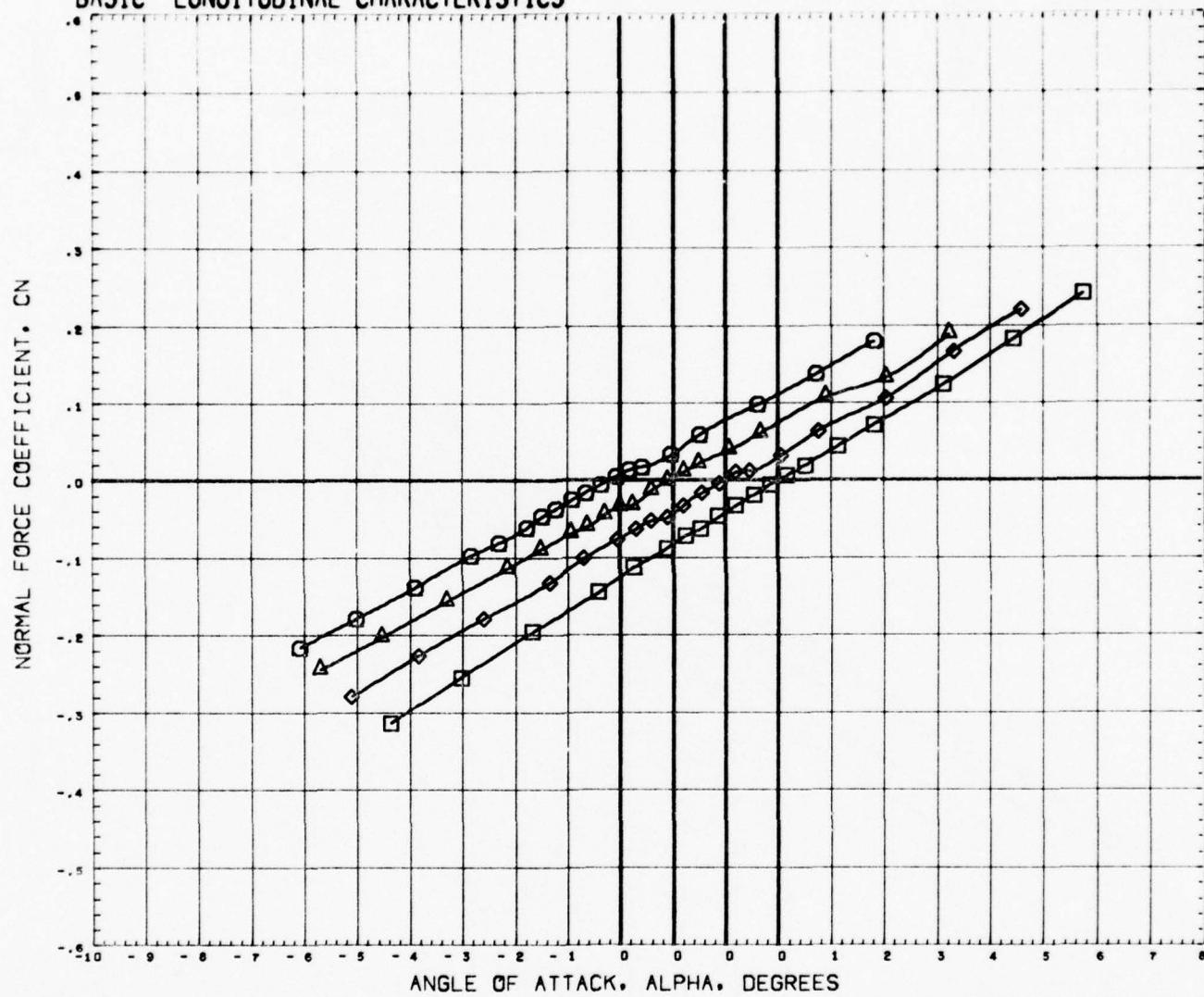
NOTE: POSITIVE DIRECTIONS SHOWN.  
 $C_N$  AND  $C_m$  ARE IN THE PITCH  
 PLANE REGARDLESS OF THE MODEL  
 ATTITUDE

FIGURE 8. AXIS SYSTEM

D A T A            F I G U R E S

Note: Tabular Data are available upon request.  
If interested contact report originator.

### BASIC LONGITUDINAL CHARACTERISTICS



SYMBOL    MACH  
 ○        0.499  
 △        0.802  
 ◊        0.948  
 □        1.000

PARAMETRIC VALUES  
 0.000    M-LGTH    2.250

REFERENCE INFORMATION  
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 LREF      3.0000    INCHES  
 BREF      3.0000    INCHES  
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 YHFP      0.0000    INCHES  
 ZHFP      0.0000    INCHES  
 SCALE     0.0000    NONE

REFERENCE FILE

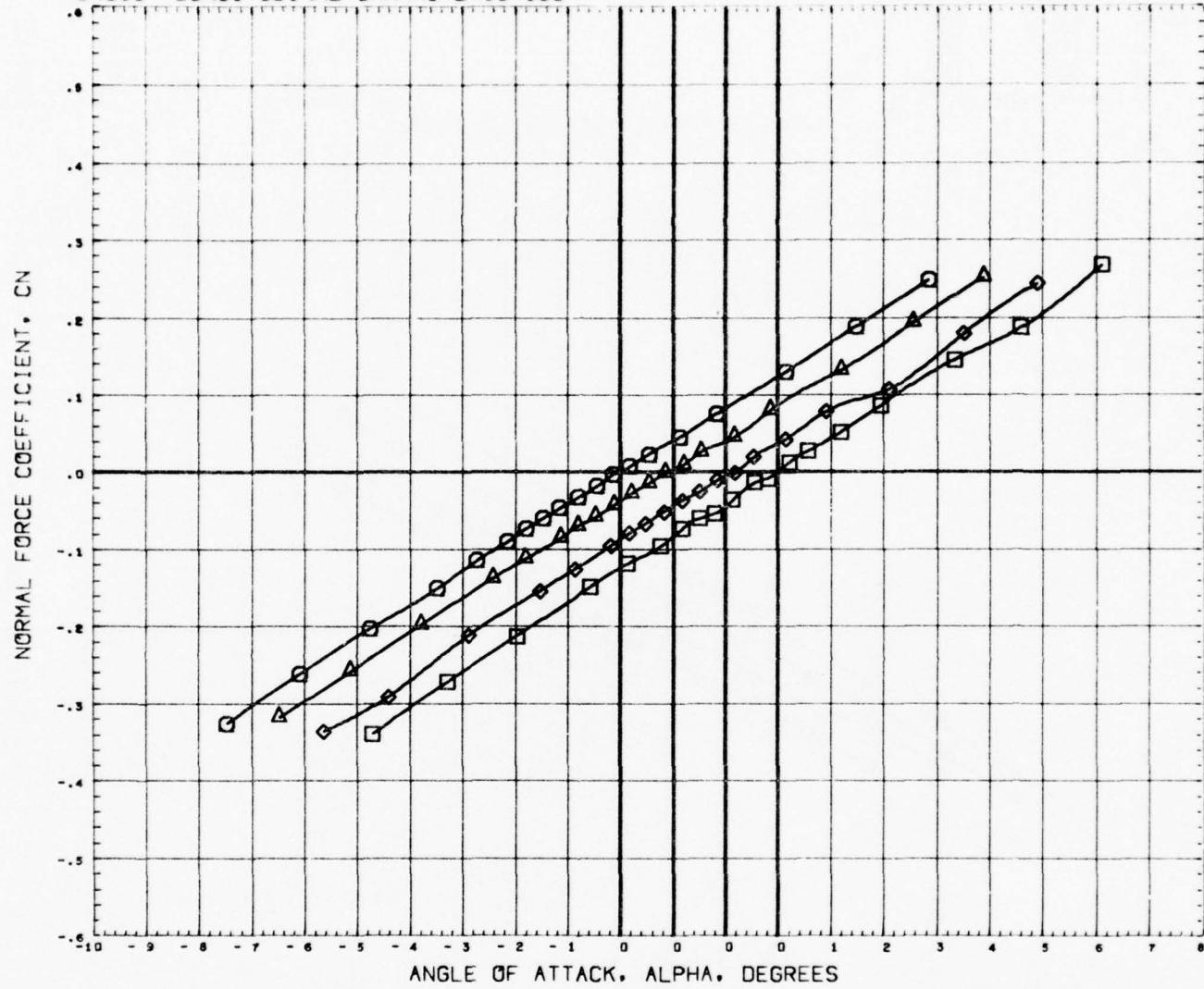
AEDC TEST PWT-4T201 CONE-CYLINDER, N1M1

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PAGE

1

## BASIC LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH	PHI	PARAMETRIC VALUES
○	1.050		0.000 M-LGTH 2.250
△	1.095		
◊	1.198		
□	1.297		

REFERENCE FILE

AEDC TEST PWT-4T201 CONE-CYLINDER, N1M1

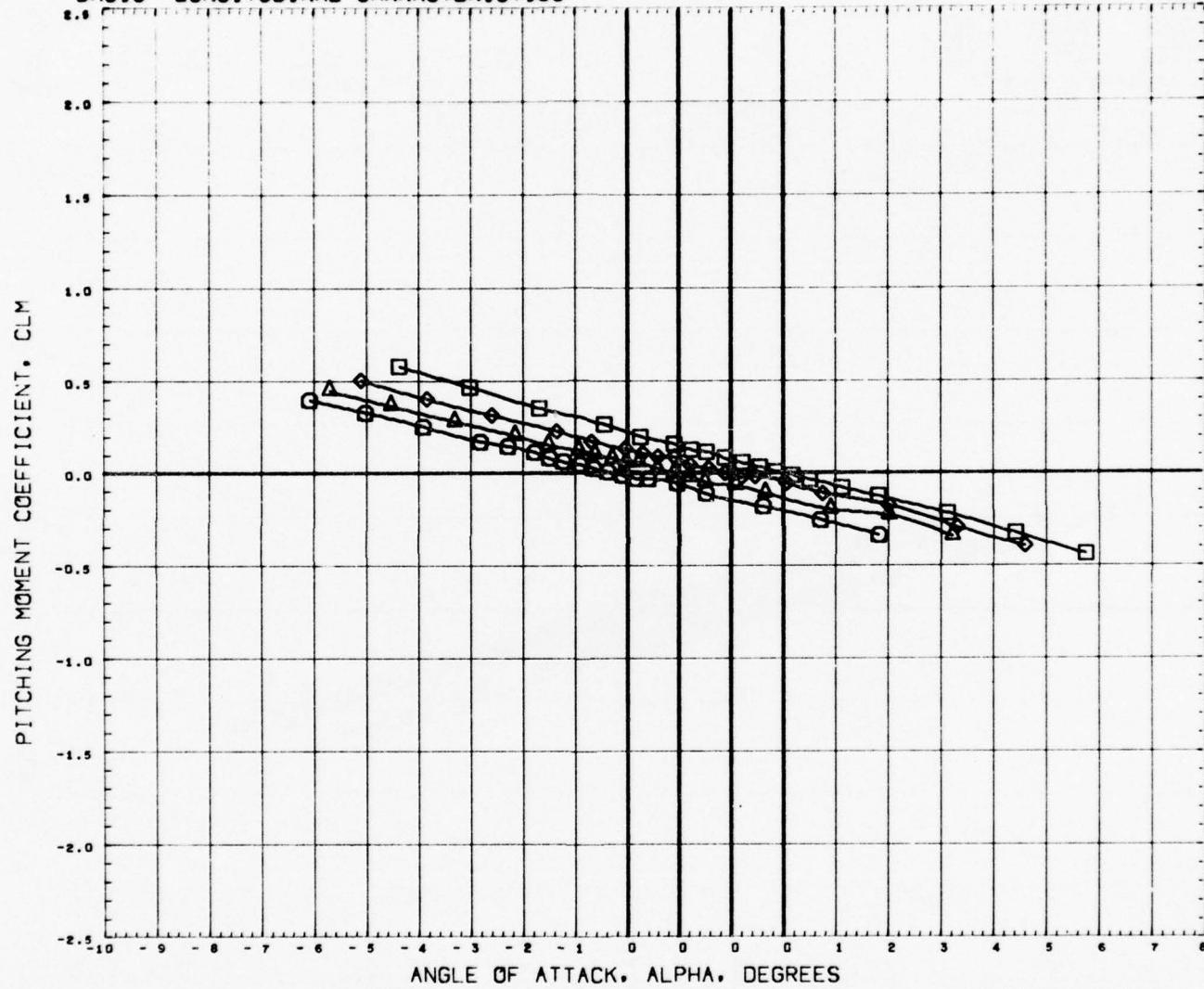
(CRTAM01) 10 MAR 72

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2

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YMRP	0.0000	INCHES
ZMRP	0.0000	INCHES
SCALE	0.0000	NONE

### BASIC LONGITUDINAL CHARACTERISTICS



SYMBOL    MACH    PHI  
 ○       0.499    0.000  
 △       0.802    0.948  
 ◇       0.948    1.000

PARAMETRIC VALUES  
 0.000    M-LGTH    2.250

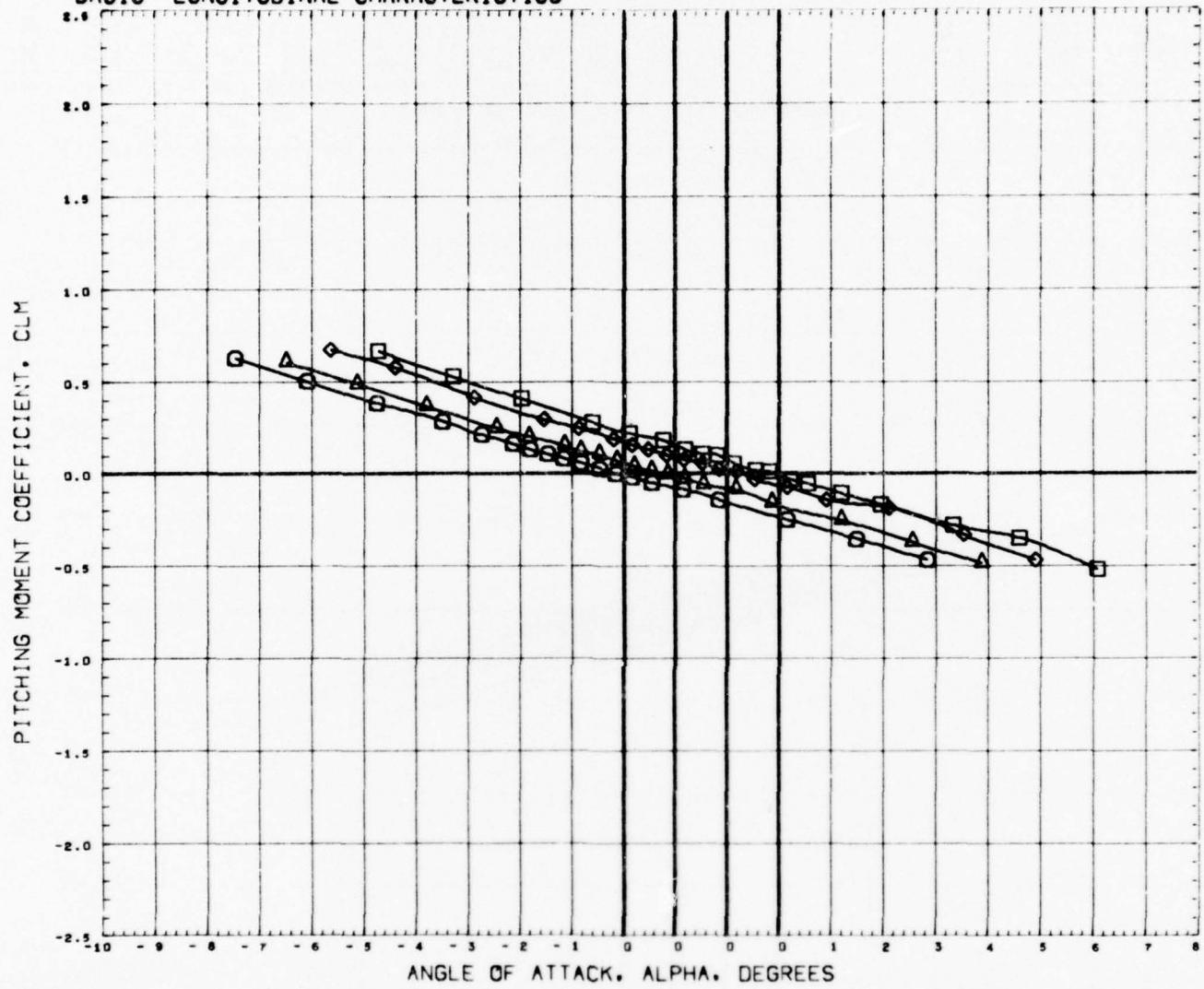
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 YMRP     0.0000    INCHES  
 ZMRP     0.0000    INCHES  
 SCALE    0.0000    NONE

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## BASIC LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES
○	1.050	PHI 0.000 M-LGTH 2.250
△	1.095	
◊	1.198	
□	1.297	

## REFERENCE FILE

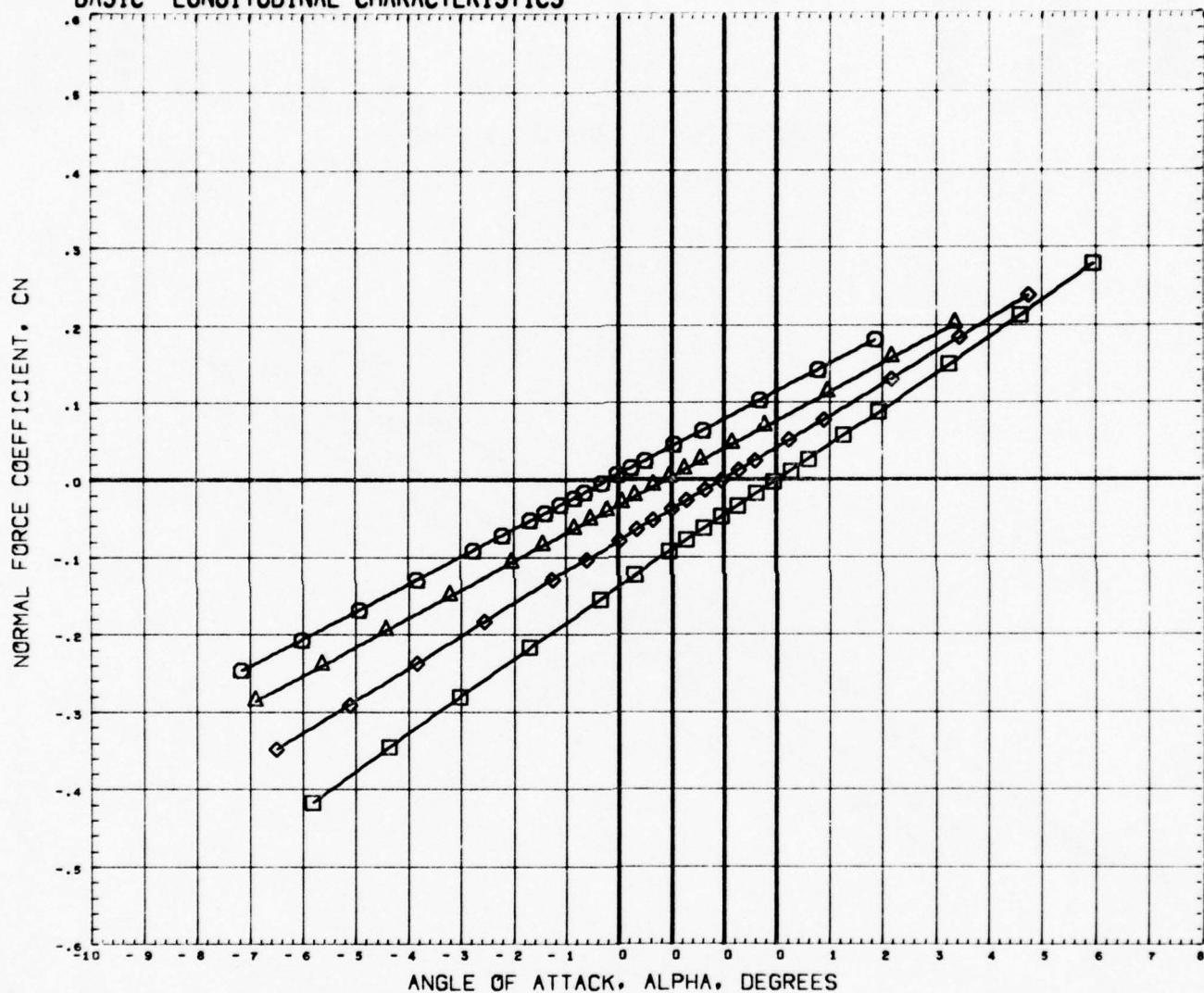
AEDC TEST PWT-4T201 CONE-CYLINDER. N1M1

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SCALE	0.0000	NONE

## **BASIC LONGITUDINAL CHARACTERISTICS**



SYMBOL	MACH	PARAMETRIC VALUES		
		PHI	0.000	M-LGTH
○	0.499			
△	0.802			
◊	0.951			
□	1.004			

REFERENCE INFORMATION		
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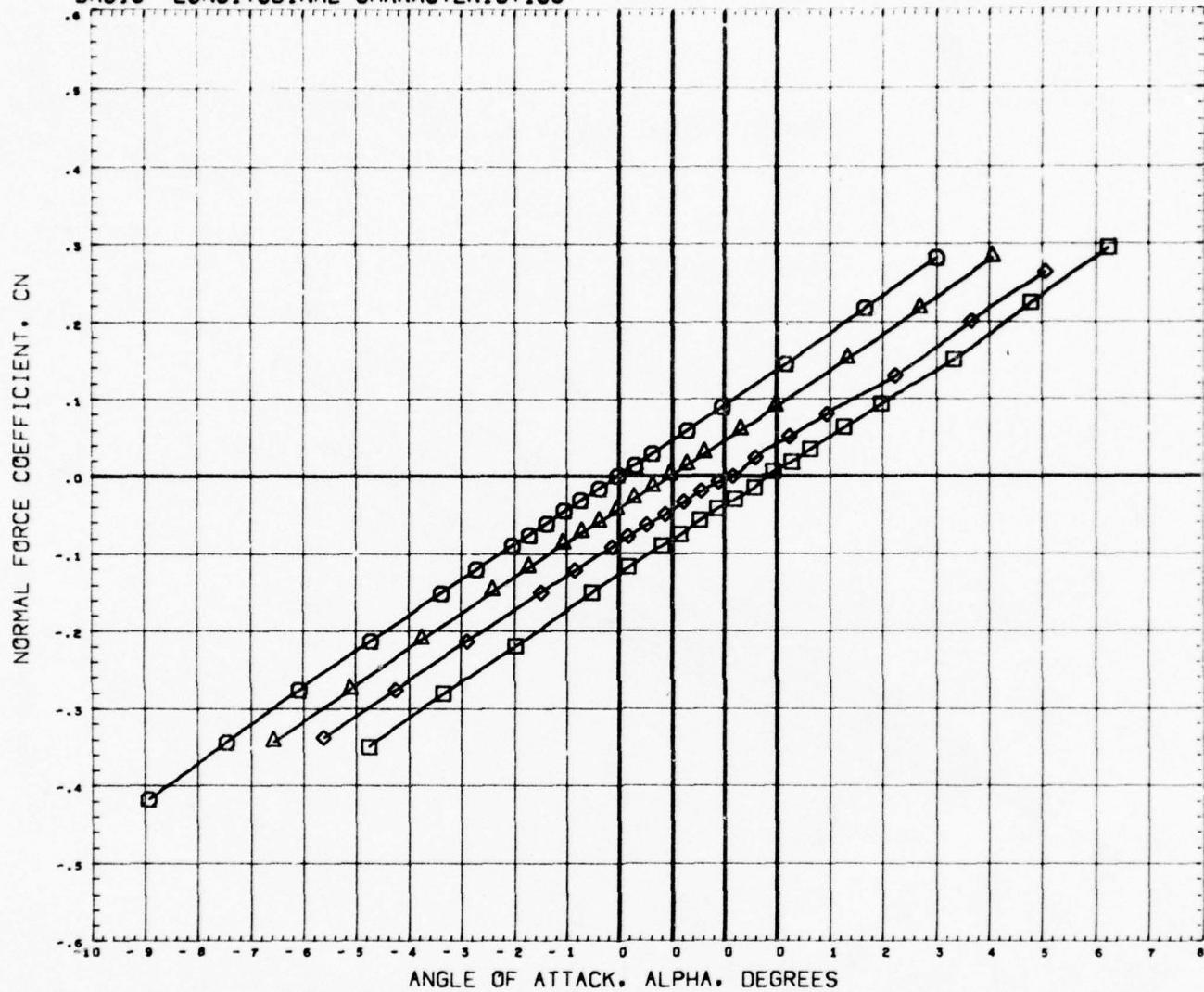
AEDC TEST PWT-4T201 CONE-CYLINDER, N1M2

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5

## BASIC LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES
○	1.050	PHI 0.000 M-LGTH 1.500
△	1.097	
◊	1.197	
□	1.295	

REFERENCE INFORMATION		
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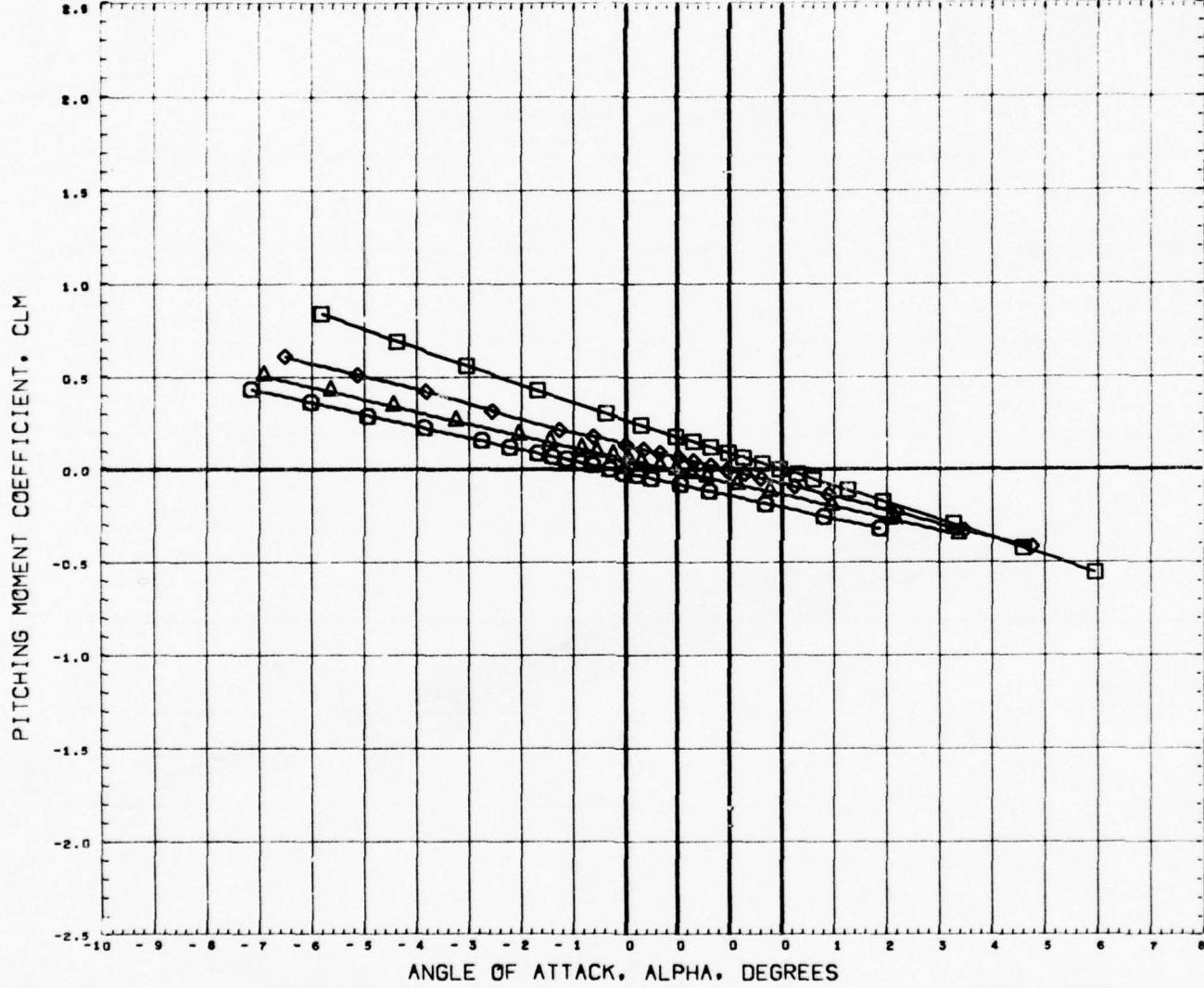
AEDC TEST PWT-4T201 CONE-CYLINDER, N1M2

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6

## BASIC LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH	PHI	PARAMETRIC VALUES
○	0.499		0.000 M-LGTH 1.500
△		0.802	
◊	0.951		
□		1.004	

REFERENCE INFORMATION		
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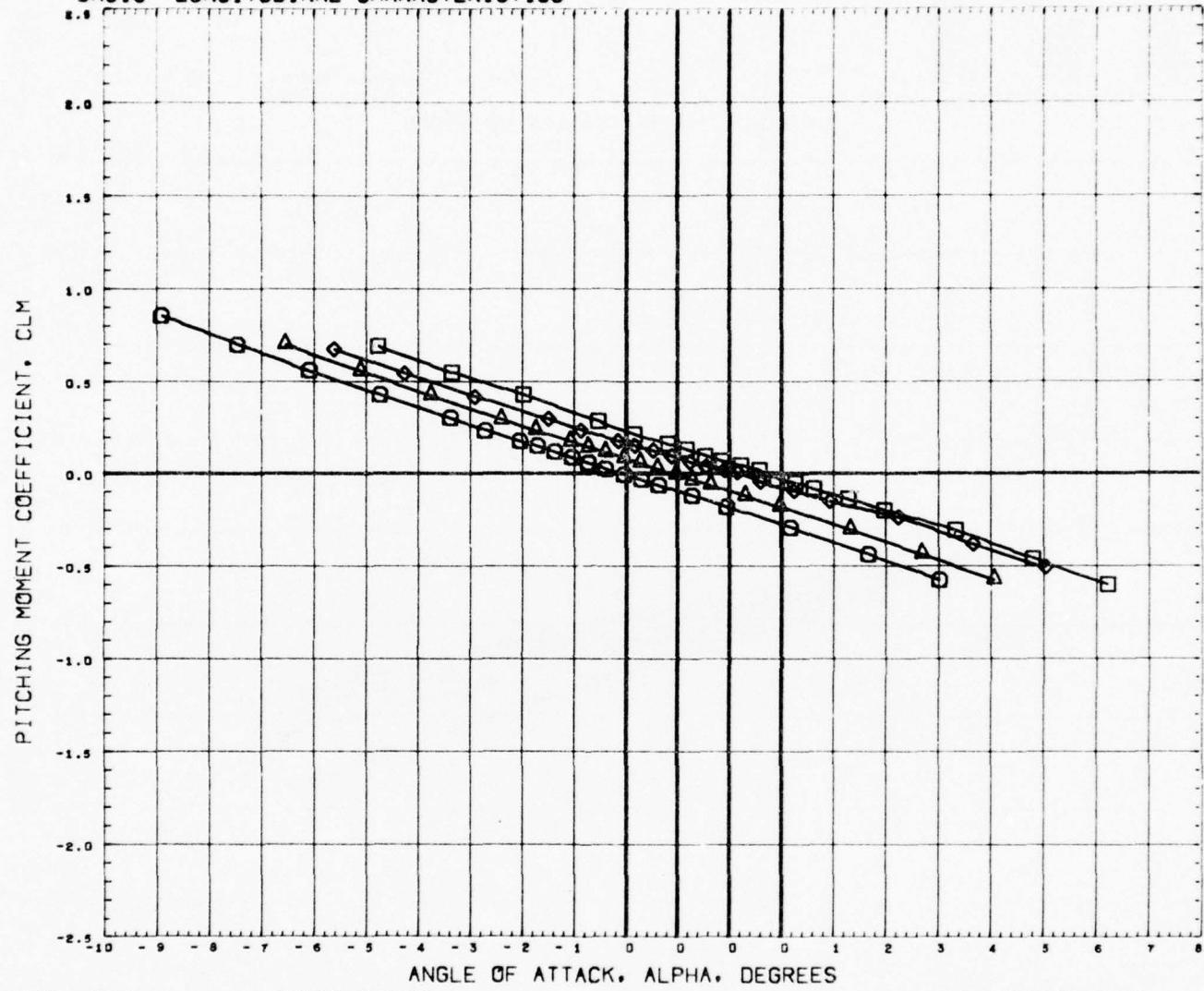
AEDC TEST PWT-4T201 CONE-CYLINDER. N1M2

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7

## BASIC LONGITUDINAL CHARACTERISTICS



SYMBOL      MACH      PHI      PARAMETRIC VALUES  
 ○      1.050      0.000      0.000      M-LGTH      1.500  
 △      1.097  
 ◇      1.197  
 □      1.295

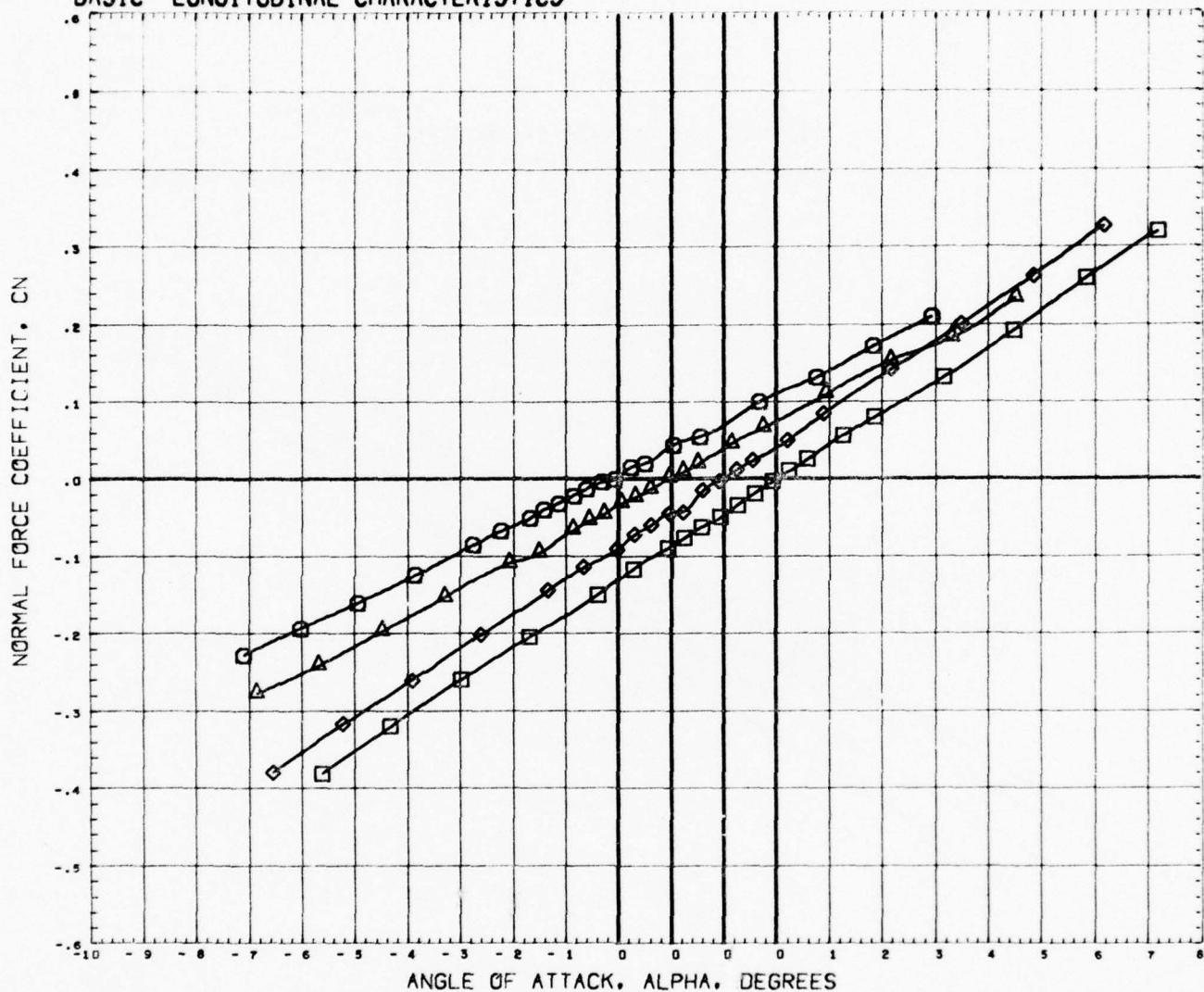
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 SCALE      0.0000      NONE

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## BASIC LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES		
		FHI	0.000	M-LGTH
○	0.499			0.750
△	0.800			
◊	0.952			
□	0.996			

REFERENCE INFORMATION		
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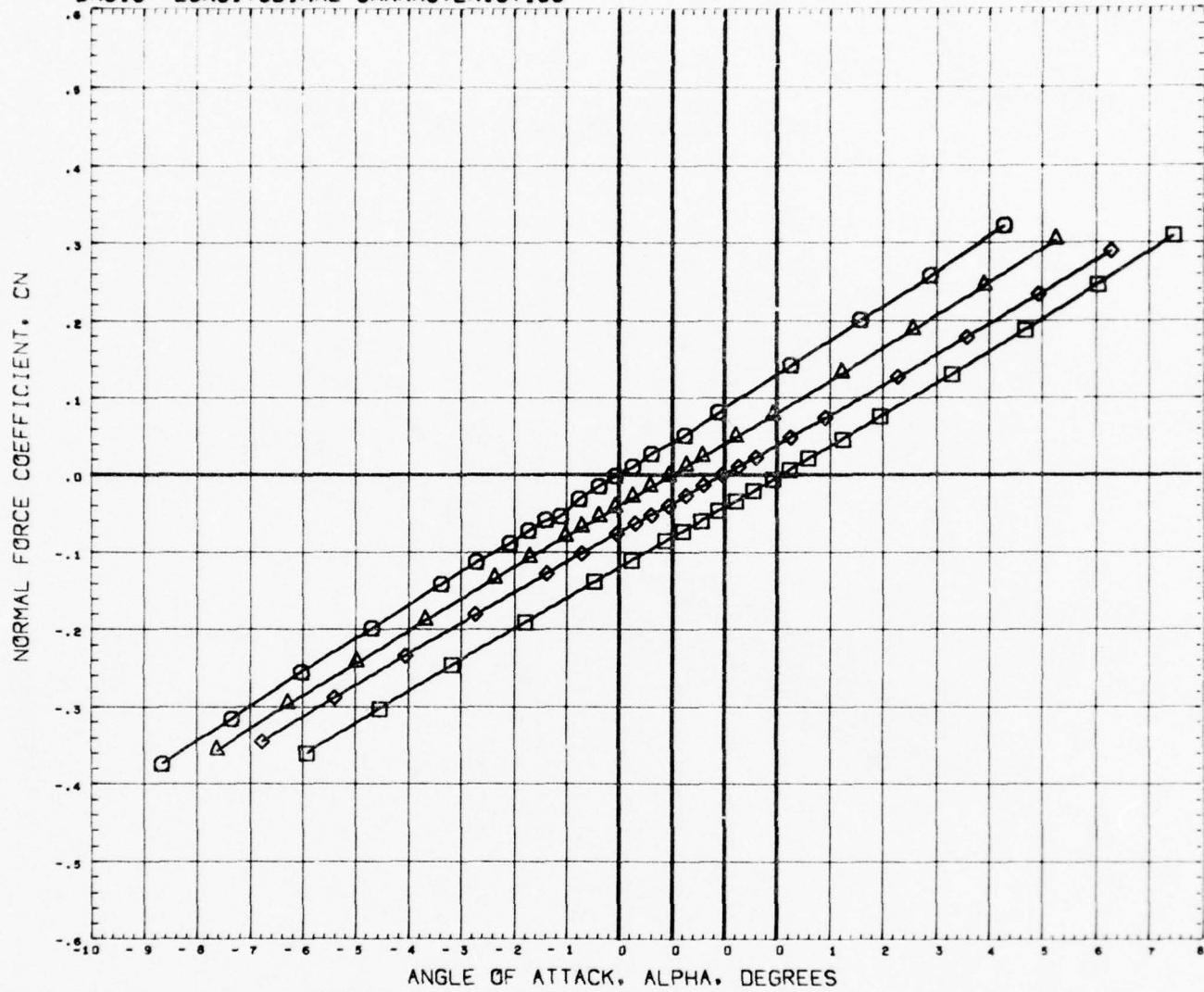
AEDC TEST PWT-4T201 CONE-CYLINDER. N1M3

(RTAM03) 10 MAR 72

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## BASIC LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES
○	1.051	PHI
△	1.096	0.000
◊	1.200	M-LGTH
□	1.300	0.750

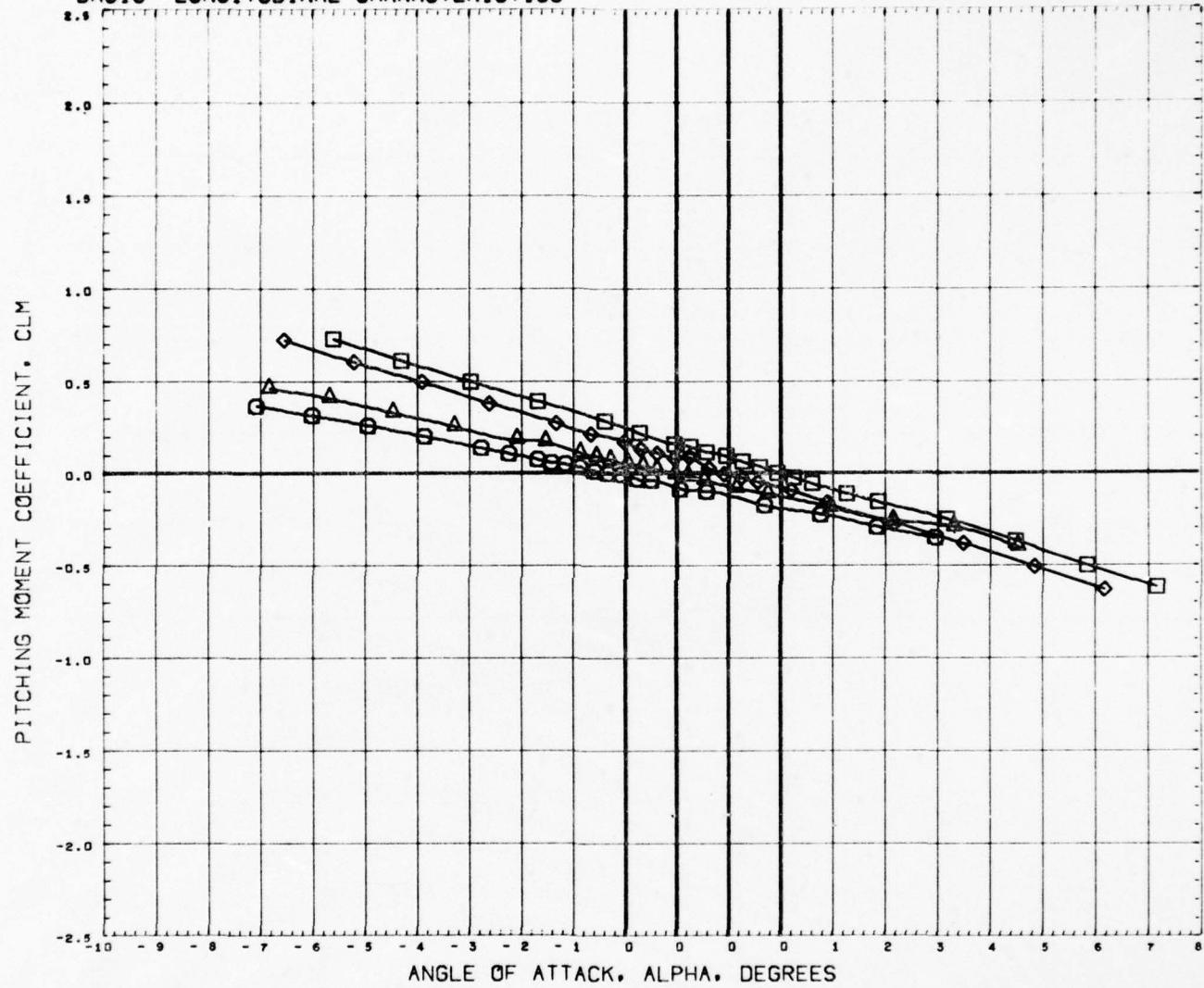
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**REFERENCE FILE**

AEDC TEST PWT-4T201 CONE-CYLINDER, N1M3

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## BASIC LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES		
		PHI	0.000	M-LGTH
○	0.499			0.750
△	0.800			
◊	0.952			
□	0.996			

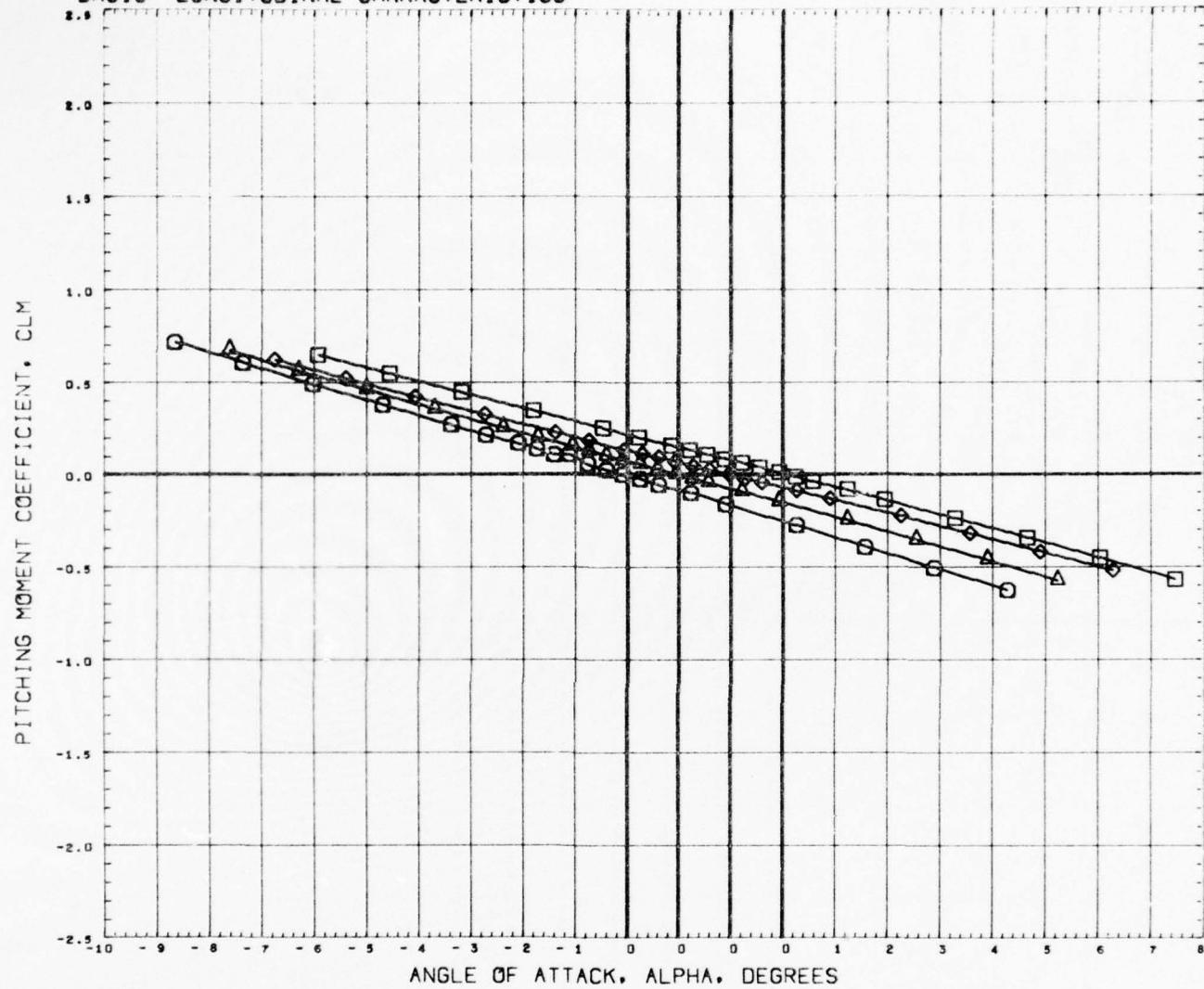
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### BASIC LONGITUDINAL CHARACTERISTICS



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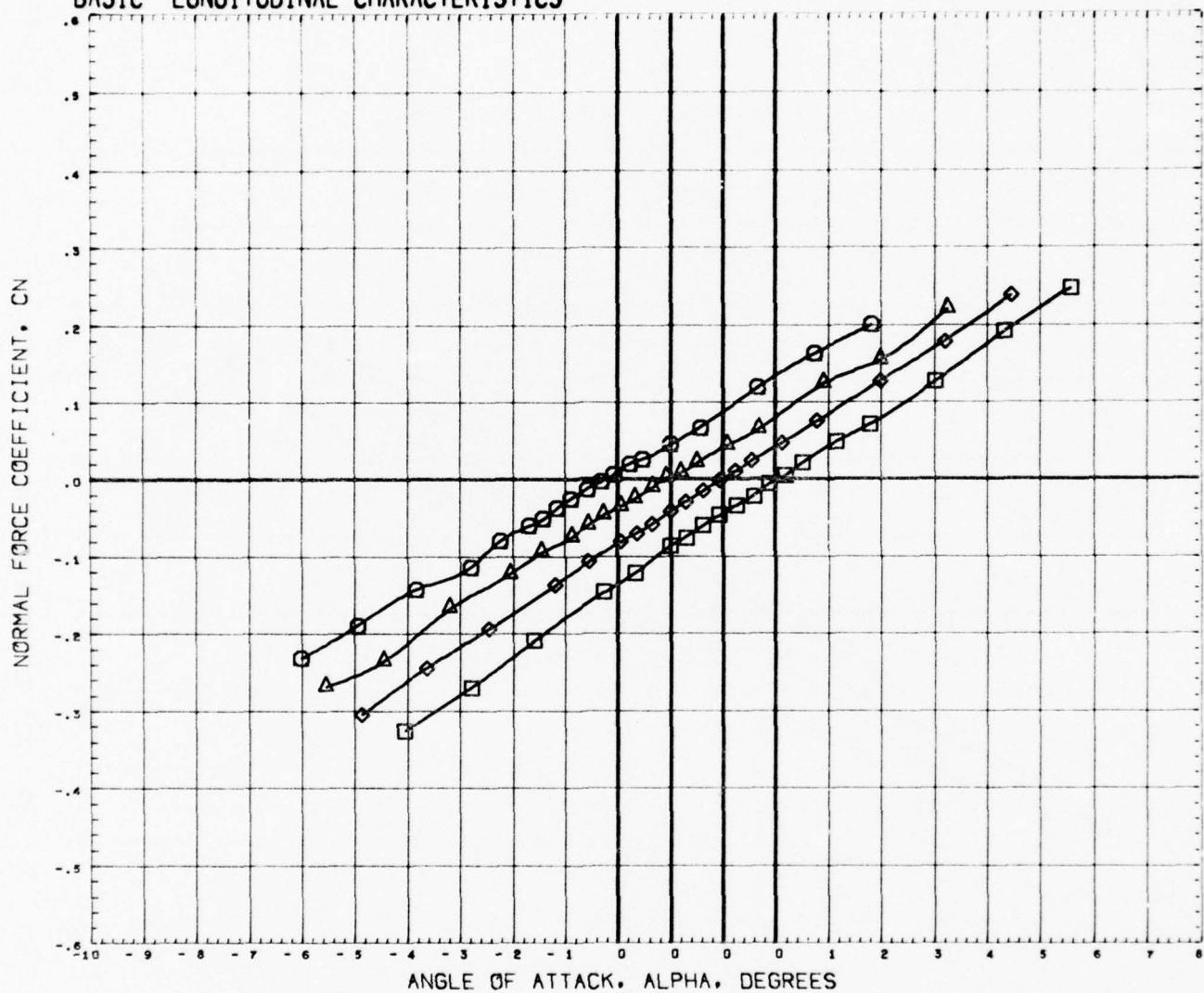
AEDC TEST PWT-4T201 CONE-CYLINDER, N1M3

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## BASIC LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH	PHI	PARAMETRIC VALUES
○	0.502	0.000	M-LGTH 5.750
△	0.601		
◊	0.949		
□	0.998		

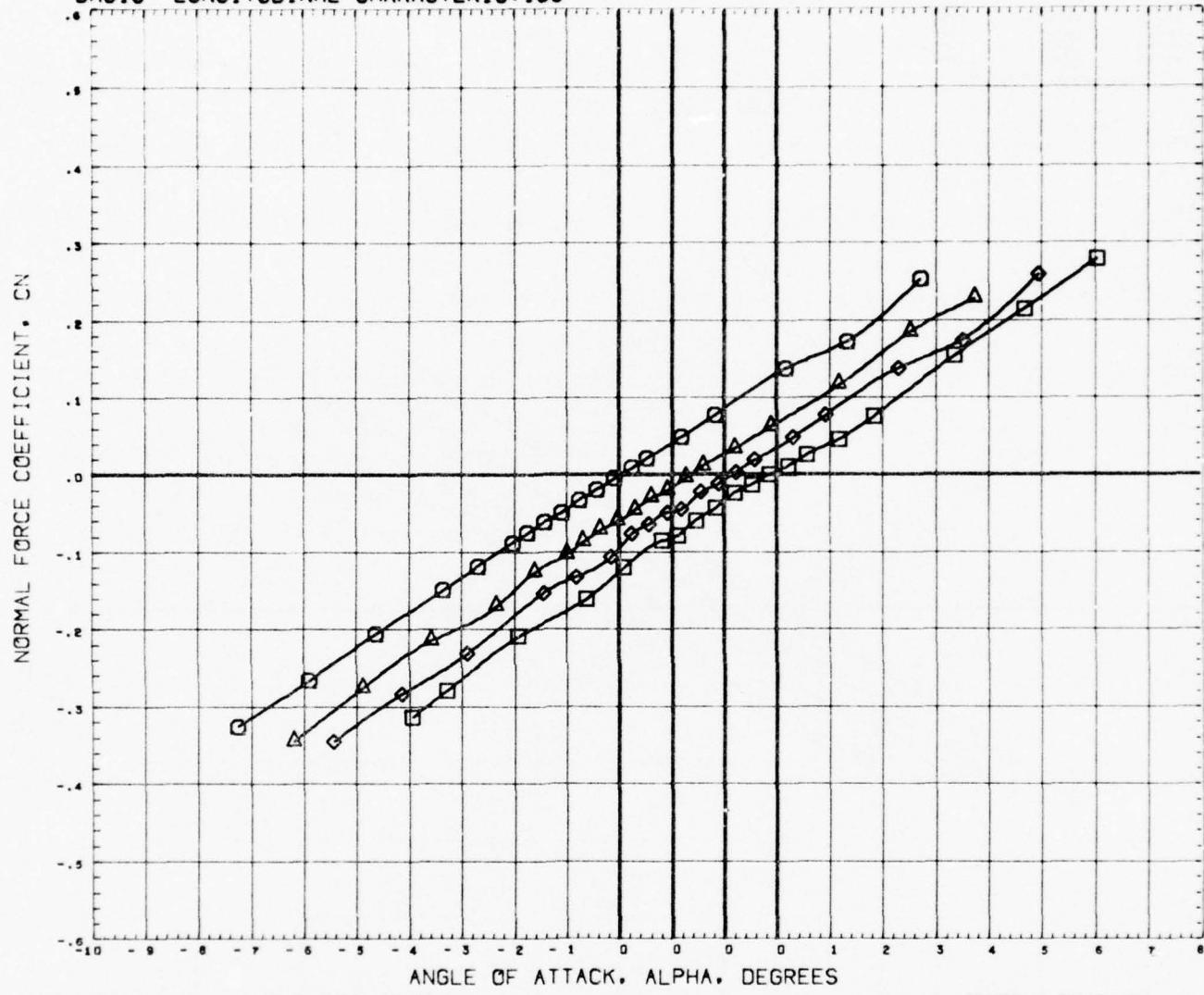
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ZMRF	0.0000	INCHES
SCALE	0.0000	NONE

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### BASIC LONGITUDINAL CHARACTERISTICS



SYMBOL	HACH	PARAMETRIC VALUES
$\circ$	1.046	PHI 0.000 M-LGTH 5.750
$\diamond$	1.097	
$\square$	1.195	
	1.297	

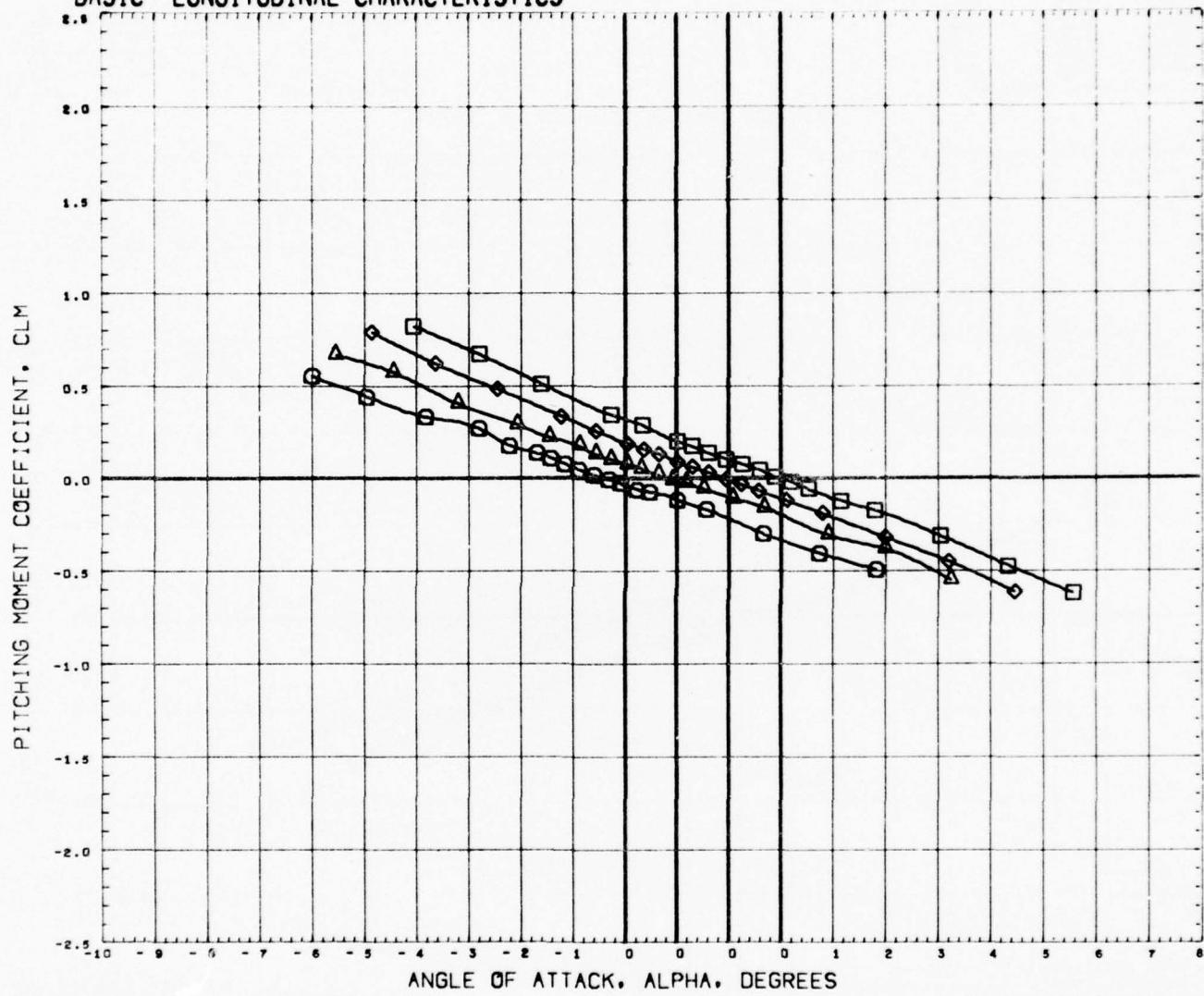
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ZMRP	0.0000	INCHES
SCALE	0.0000	NONE

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## BASIC LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES			
○	0.502	PHI	0.000	M-LGTH	5.750
△	0.801				
◊	0.949				
□	0.998				

**REFERENCE FILE**

AEDC TEST PWT-4T201 CONE-CYLINDER. N1M4

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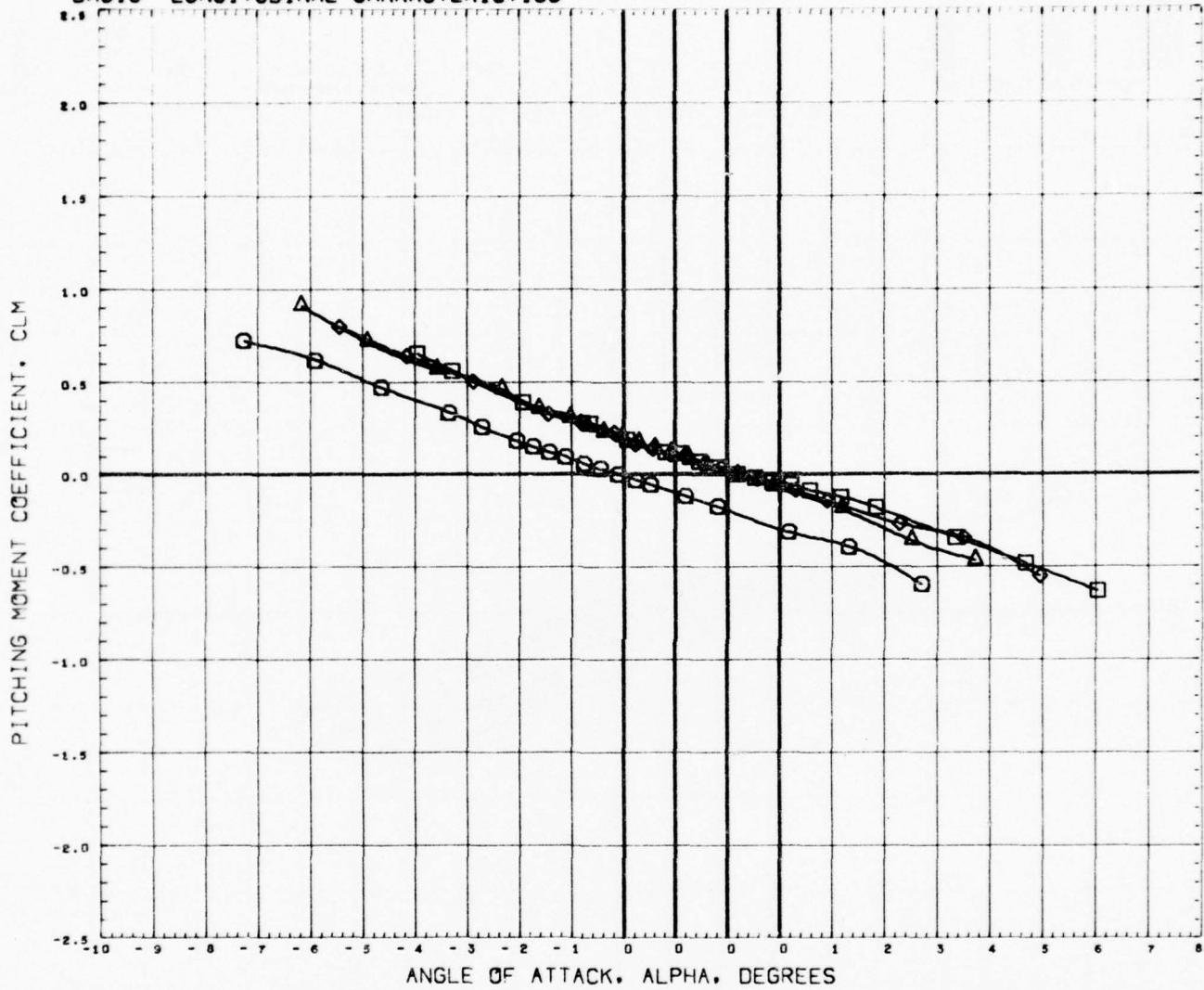
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CALE	0.0000	NONE

## BASIC LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES
○	1.046	PHI 0.000 H-LGTH 5.750
△	1.097	
◊	1.195	
□	1.297	

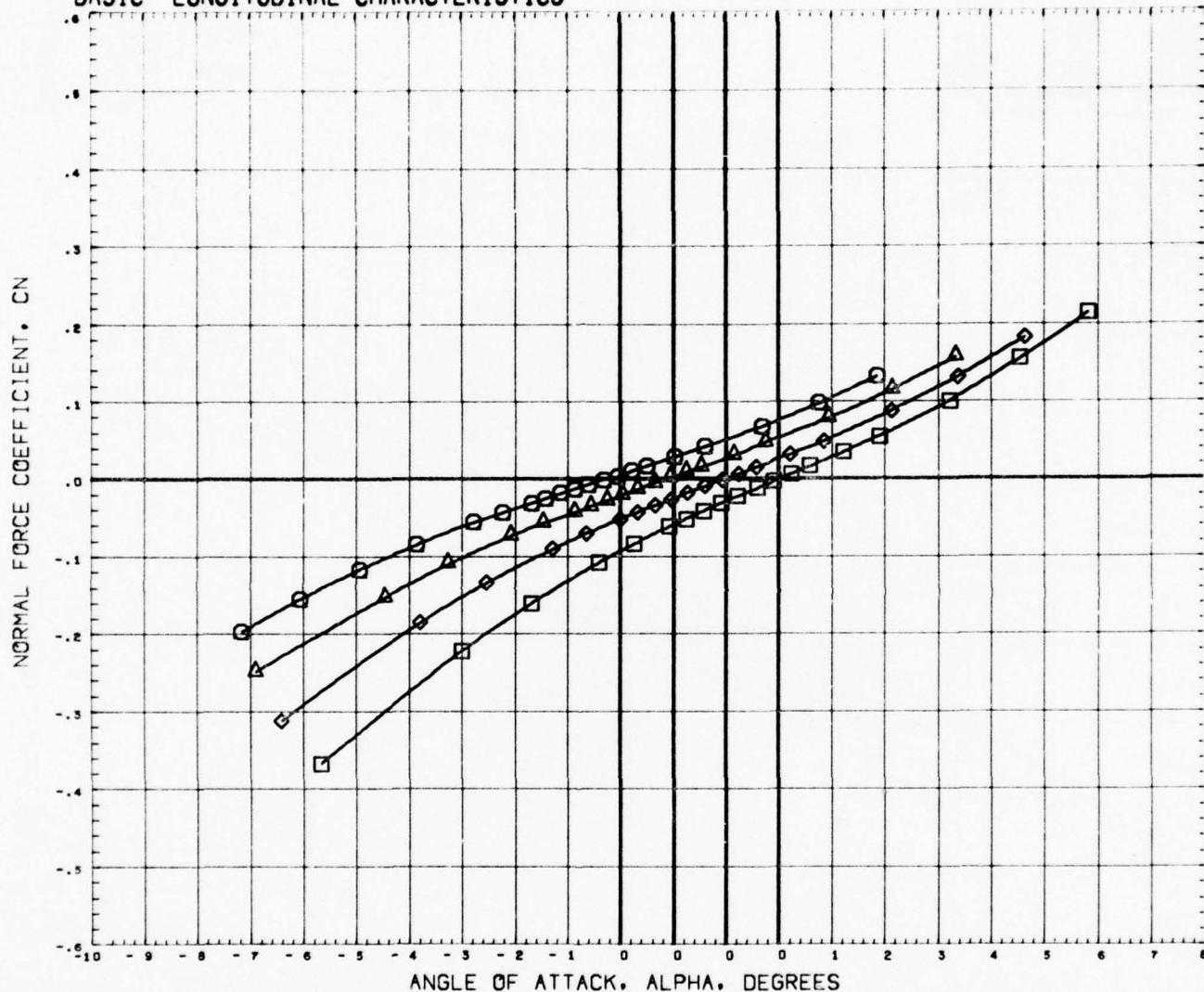
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ZMRP	0.0000	INCHES
SCALE	0.0000	NONE

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### BASIC LONGITUDINAL CHARACTERISTICS



SYMBOL      MACH      PARAMETRIC VALUES  
 ○      0.501      PHI      0.000      M-LGTH      2.250  
 △      0.799      C-LGTH      5.000      C-DIA      0.400  
 ◇      0.951  
 □      1.000

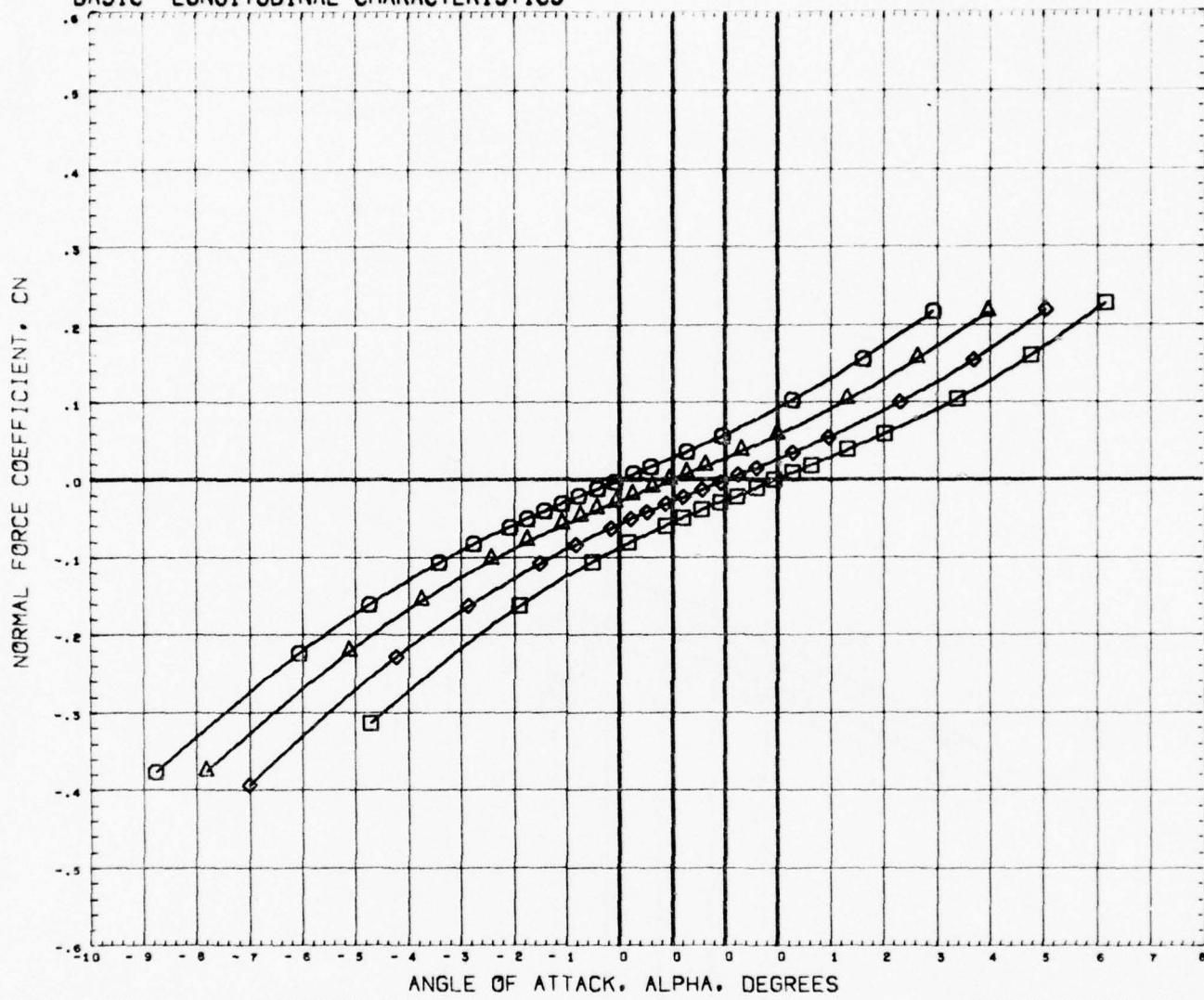
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 YMRF      0.0000      INCHES  
 ZMRF      0.0000      INCHES  
 SCALE      0.0000      NONE

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## BASIC LONGITUDINAL CHARACTERISTICS



SYMBOL  
 MACH  
 PHI  
 C-LGTH  
 C-DIA

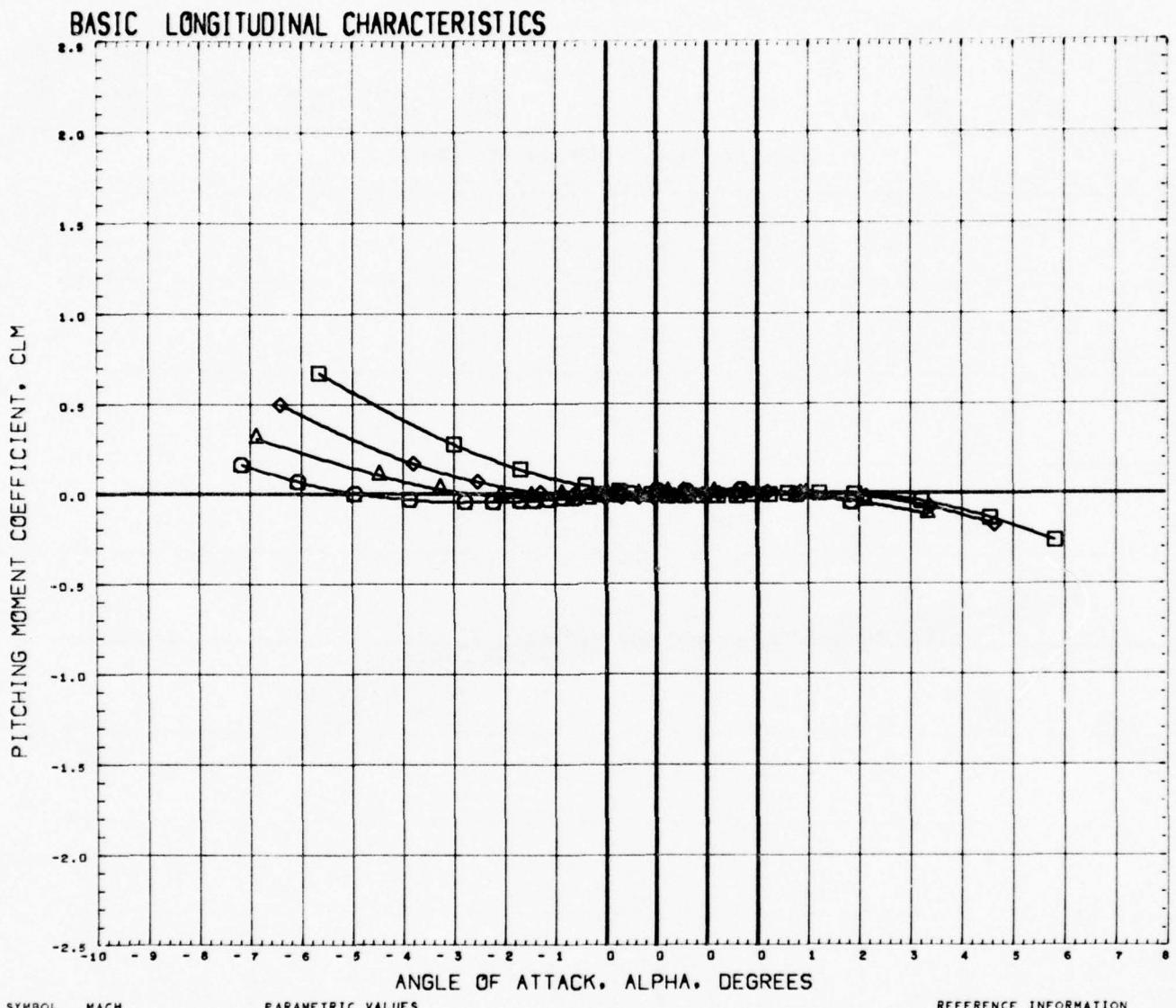
PARAMETRIC VALUES  
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REFERENCE FILE

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 ZMRP 0.0000 INCHES  
 SCALE 0.0000 NONE

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SYMBOL

MACH  
0.501  
0.799  
0.951  
1.000

PARAMETRIC VALUES

PHI      0.000      M-LGTH      2.250  
C-LGTH      5.000      C-DIA      0.400

REFERENCE INFORMATION

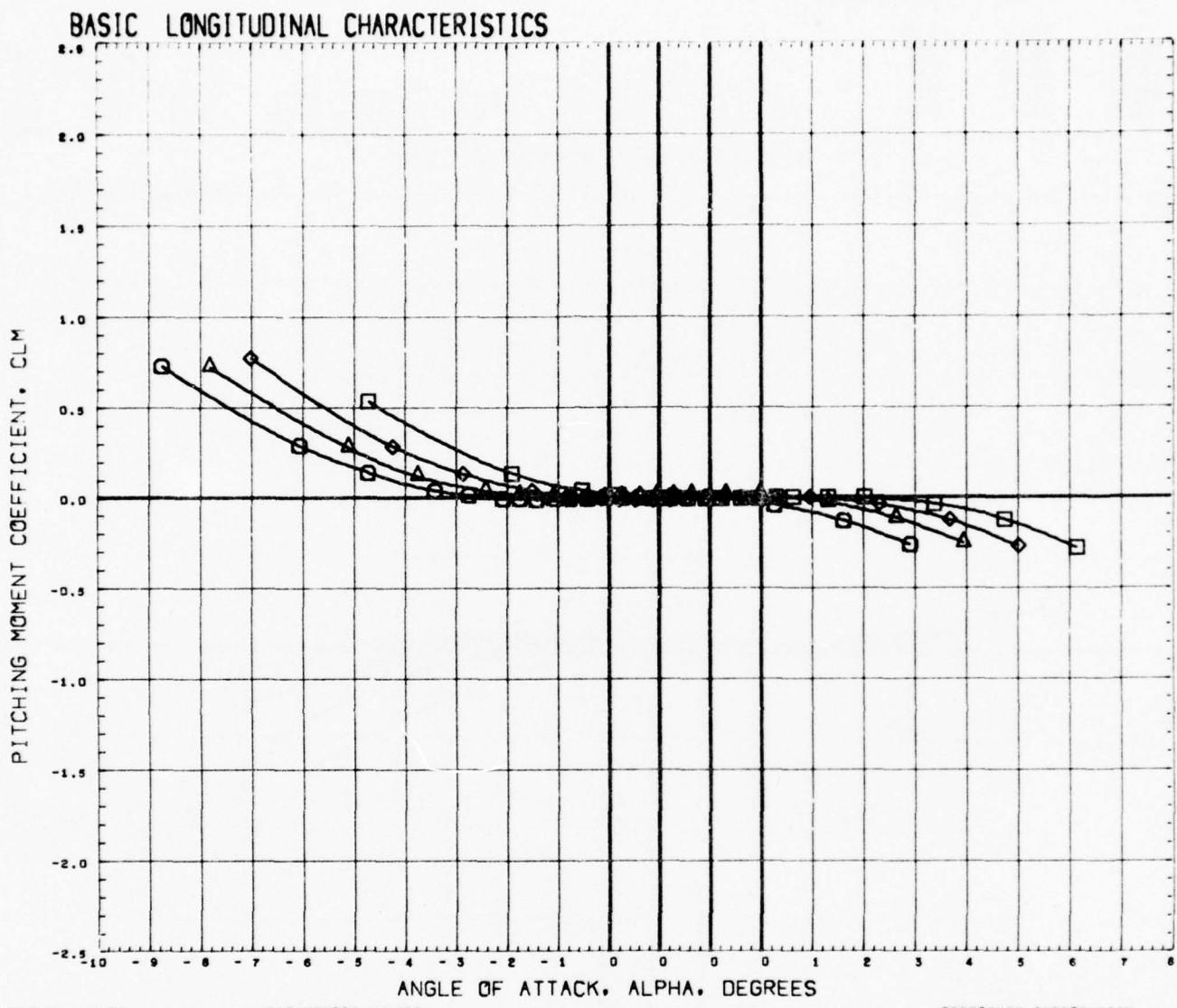
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SCALE	0.0000	NONE

REFERENCE FILE

AEDC TEST PWT-4T201 CONE-CYLINDER, N1M1C1

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SYMBOL	MACH	PARAMETRIC VALUES
$\circ$	1.055	PHI 0.000 M-LGTH 2.250
$\triangle$	1.099	C-LGTH 5.000 C-DIA 0.400
$\diamond$	1.200	
$\square$	1.298	

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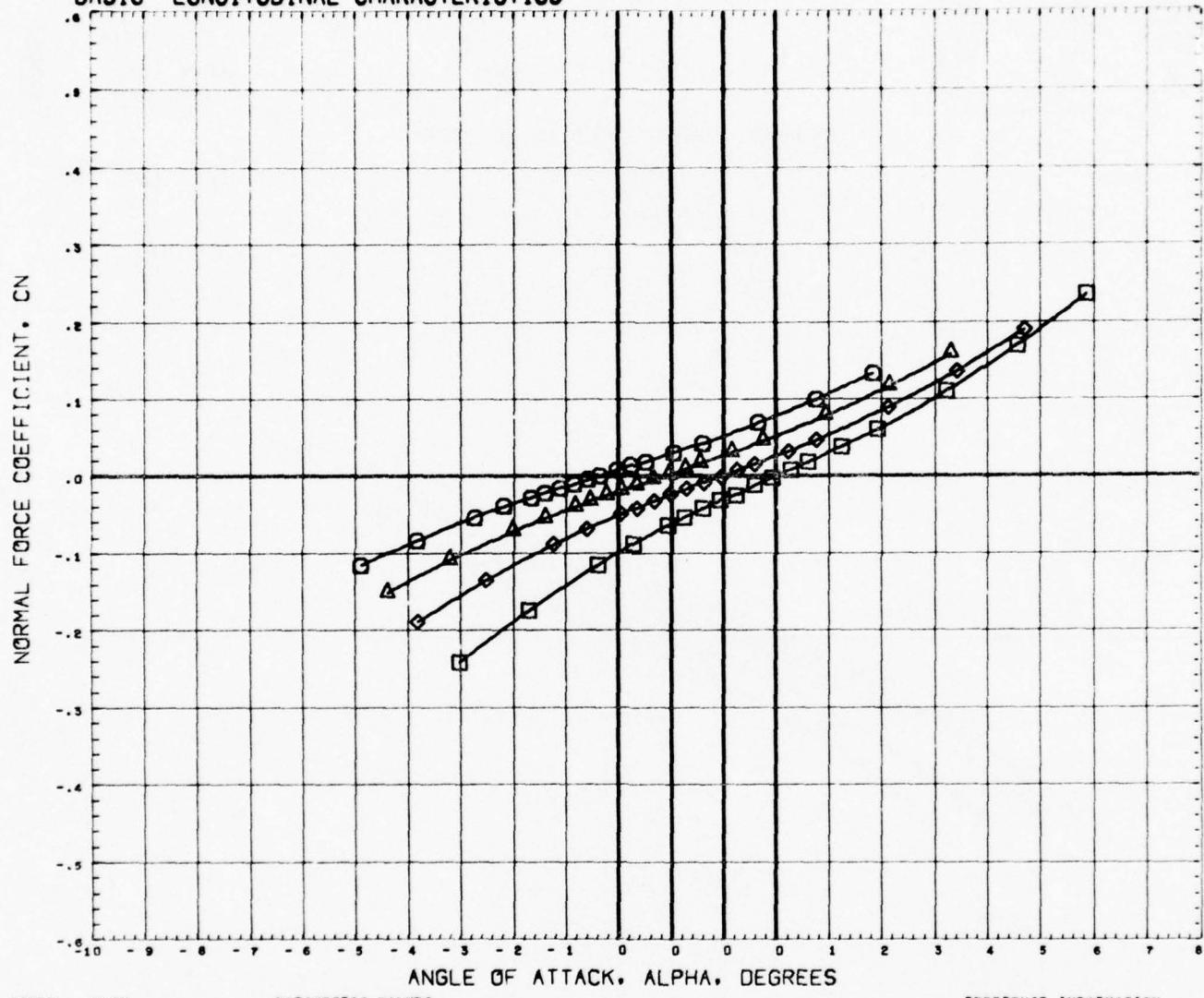
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(RTAM05) 10 MAR 72

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ZMRP	0.0000	INCHES
SCALE	0.0000	NONE

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## BASIC LONGITUDINAL CHARACTERISTICS

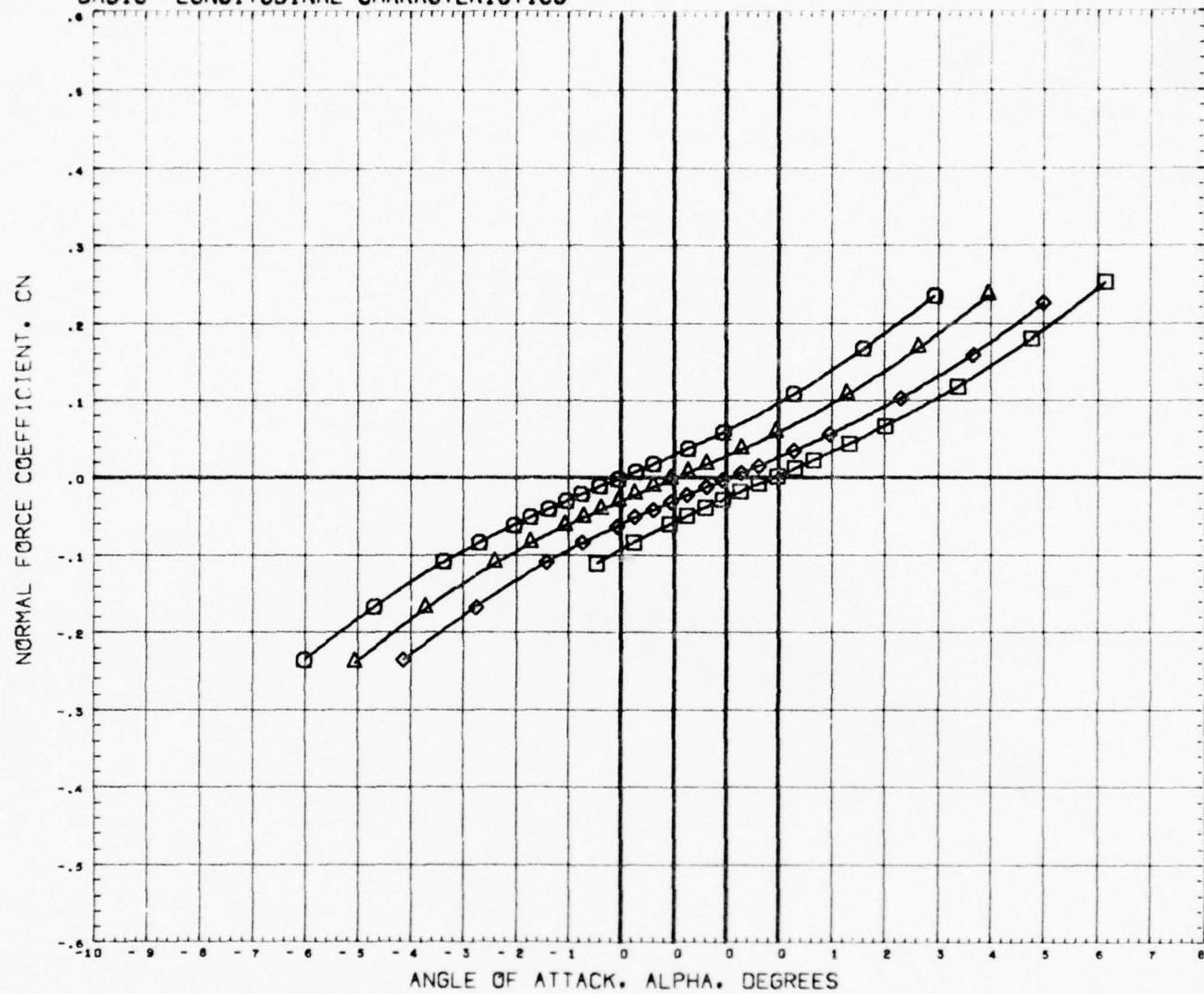


SYMBOL	PARAMETRIC VALUES			
	MACH	PHI	M-LGTH	C-DIA
○	0.501	0.000	1.500	
△	0.800	5.000		0.400
◊	0.953			
□	1.003			

DATA MIST. CODE #6

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YMRP	0.0000	INCHES
ZMRP	0.0000	INCHES
SCALE	0.0000	NONE

### BASIC LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES			
○	1.052	PHI	0.000	M-LGTH	1.500
△	1.100	C-LGTH	5.000	C-DIA	0.400
◊	1.199				
□	1.299				

DATA HIST. CODE    \*6

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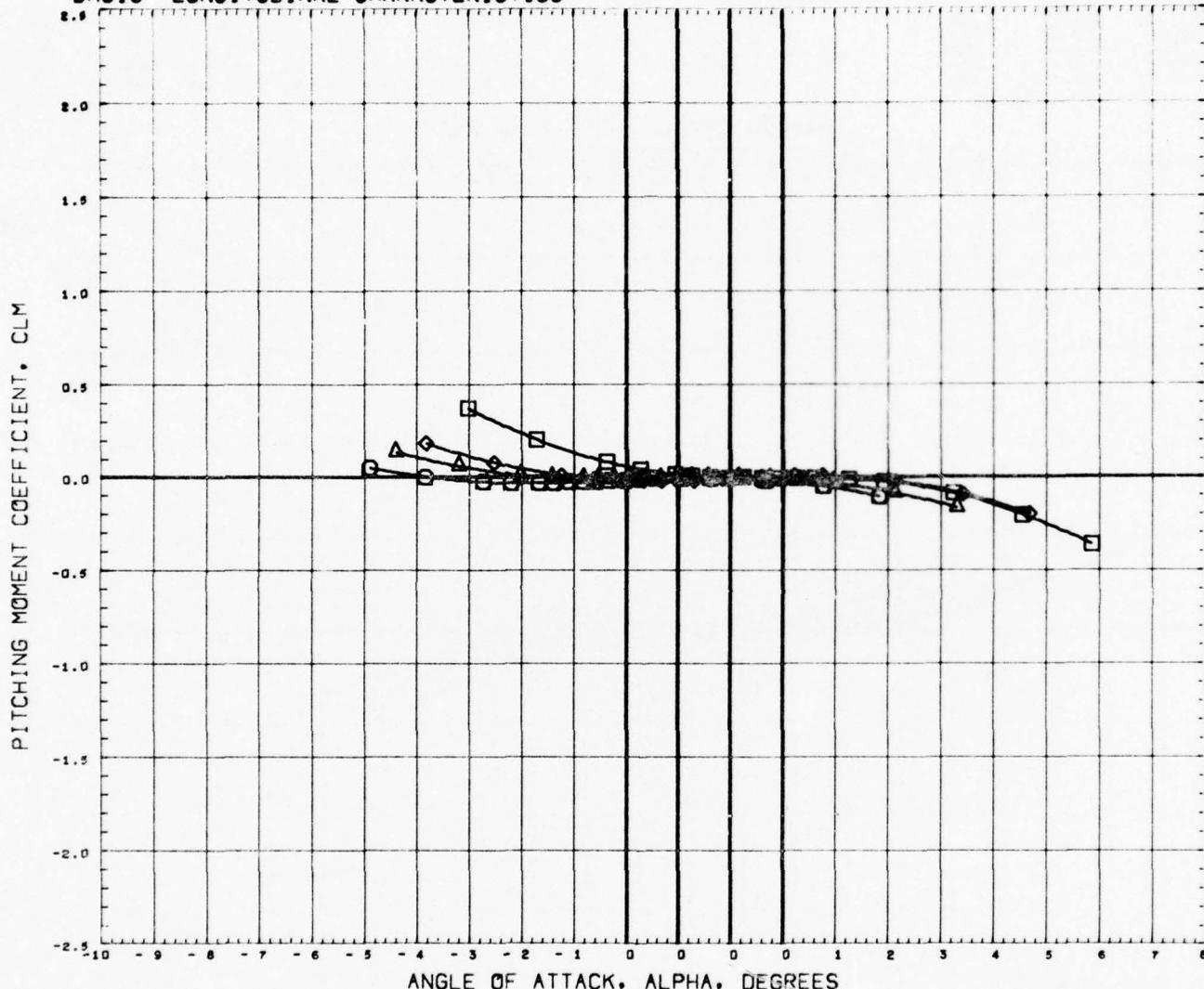
AEDC TEST PWT-4T201 CONE-CYLINDER. N1M2C1

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## BASIC LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES		
		PHI	0.000	M-LGTH
○	0.501			1.500
△	0.800	C-LGTH	5.000	C-DIA
◊	0.953			0.400
□	1.003			

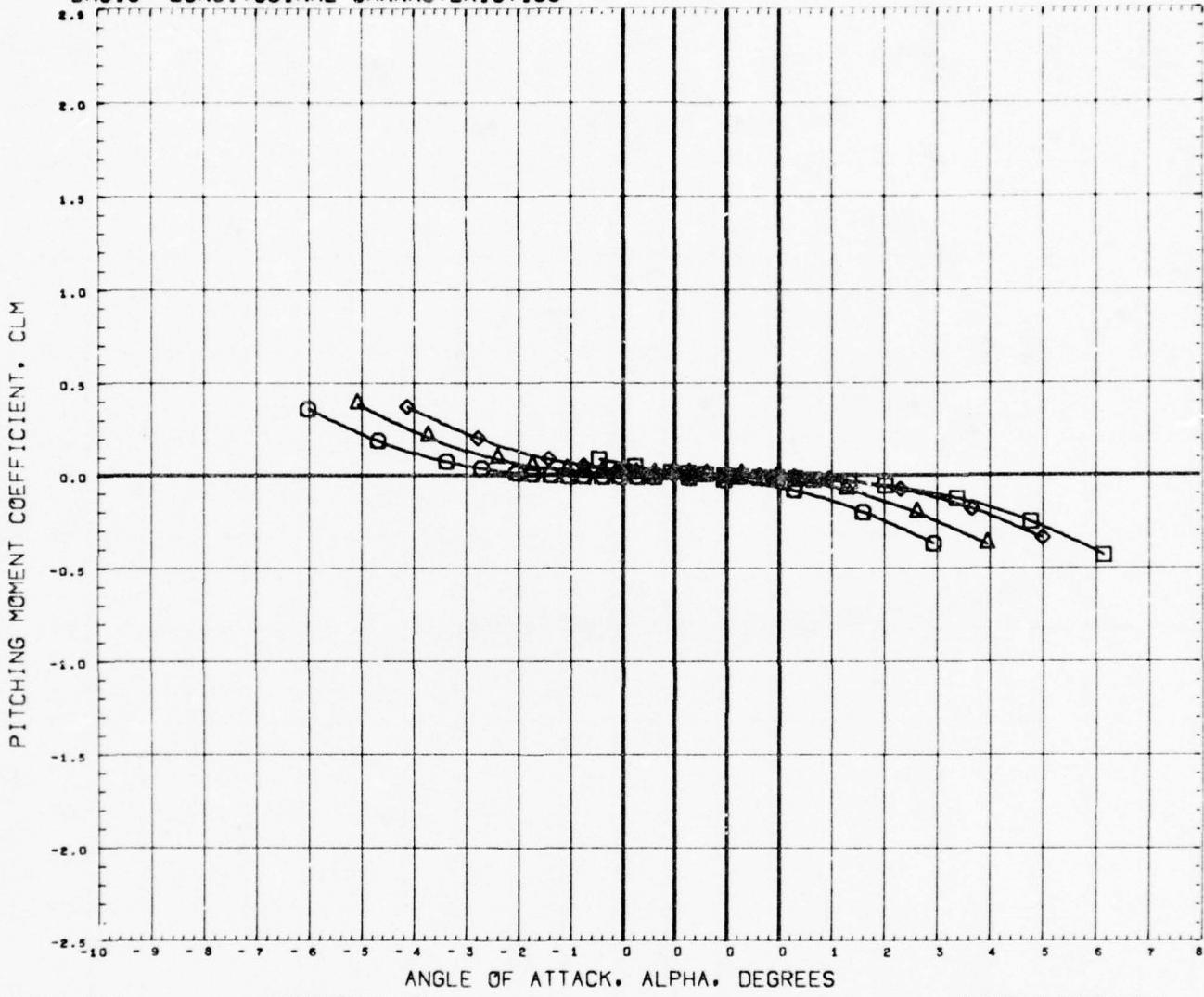
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ZMRP	0.0000	INCHES
SCALE	0.0000	NONE

DATA HIST. CODE \*G

AEDC TEST PWT-4T201 CONE-CYLINDER. N1M2C1

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## BASIC LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH		PARAMETRIC VALUES		
○	1.052	PHI	0.000	M-LGTH	1.500
△	1.100	C-LGTH	5.000	C-DIA	0.400
◊	1.199				
□	1.299				

DATA HIST. CODE \*G

REFERENCE INFORMATION		
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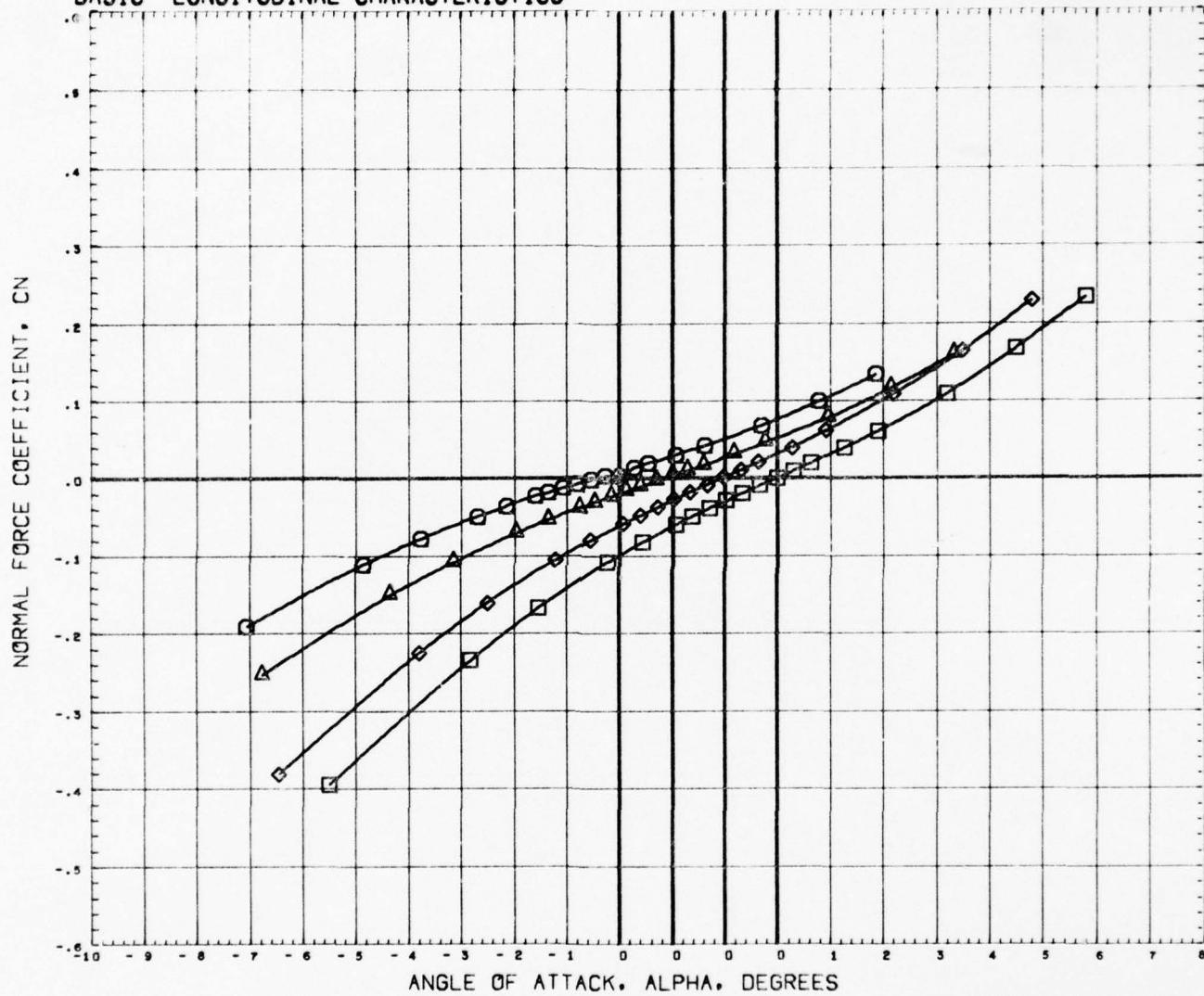
AEDC TEST PWT-4T201 CONE-CYLINDER. N1M2C1

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## BASIC LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES		
$\circ$	0.502	PHI	0.000	M-LGTH 0.750
$\triangle$	0.801	C-LGTH	5.000	C-DIA 0.400
$\diamond$	0.950			
$\square$	1.001			

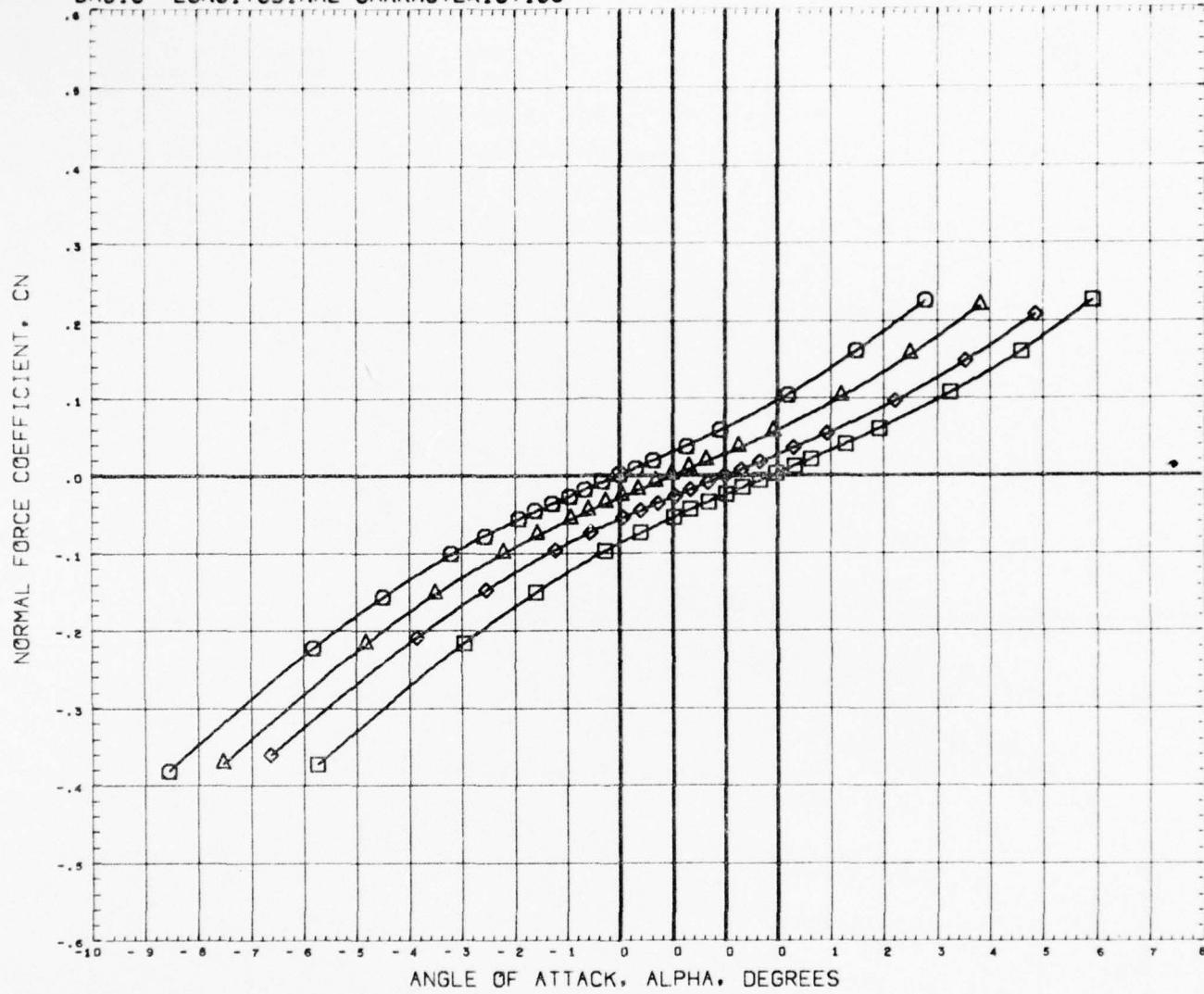
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### BASIC LONGITUDINAL CHARACTERISTICS



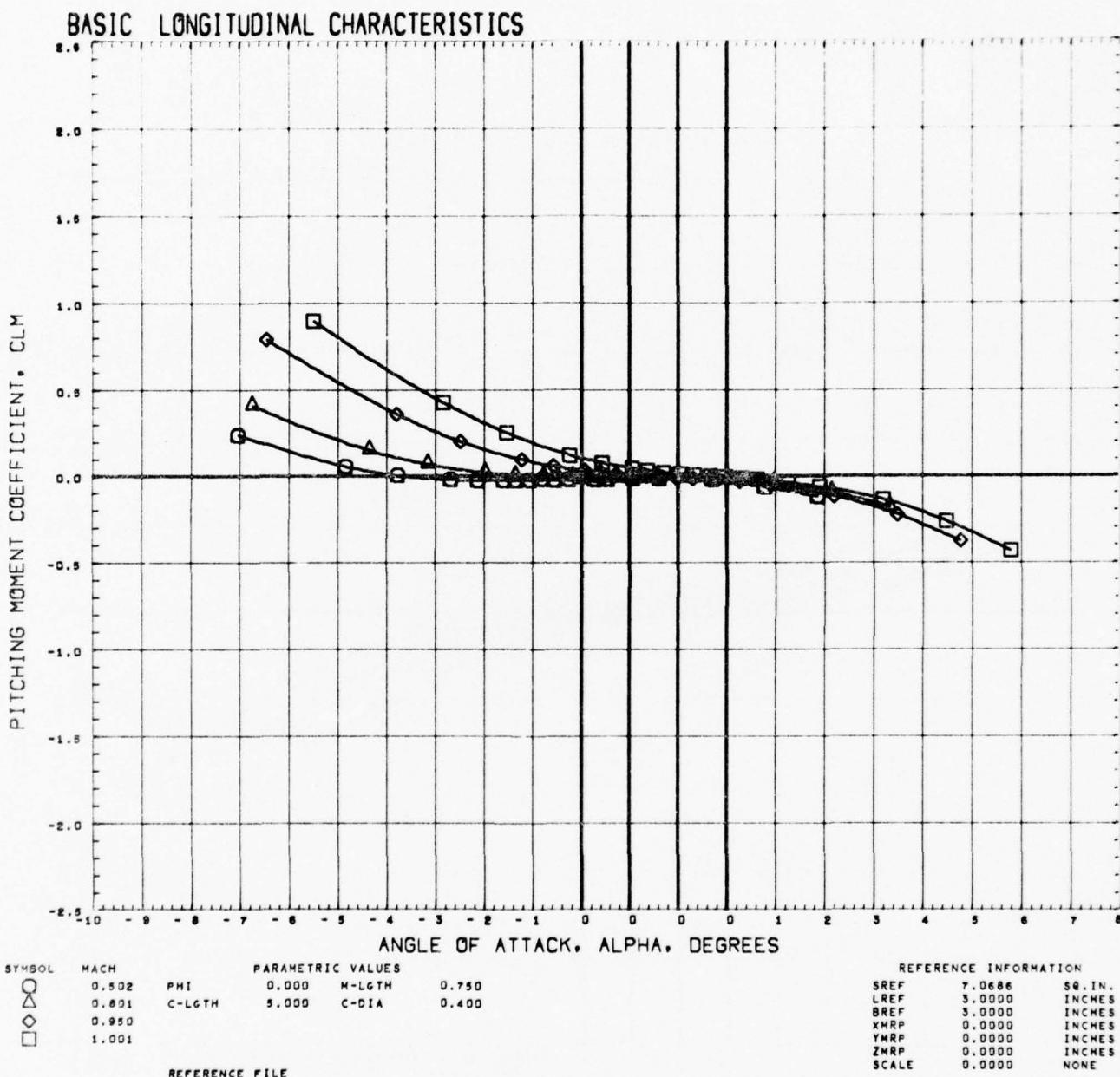
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 △      1.101      C-LGTH      5.000      C-DIA      0.400  
 ◊      1.199  
 □      1.301

REFERENCE FILE

AEDC TEST PWT-4T201 CONE-CYLINDER, N1M3C1

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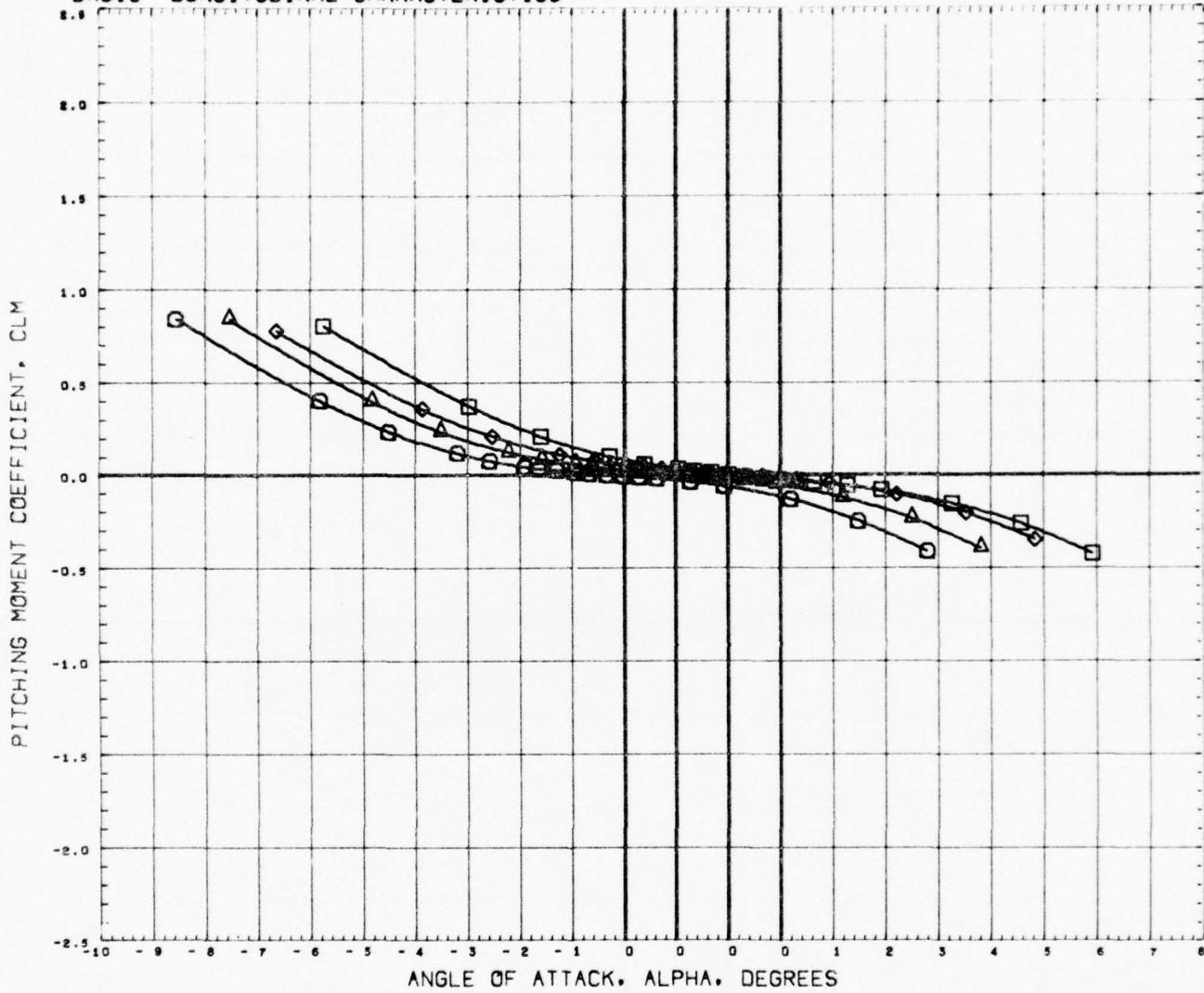


AEDC TEST PWT-4T201 CONE-CYLINDER, N1M3C1

(CRTAM07) 10 MAR 72

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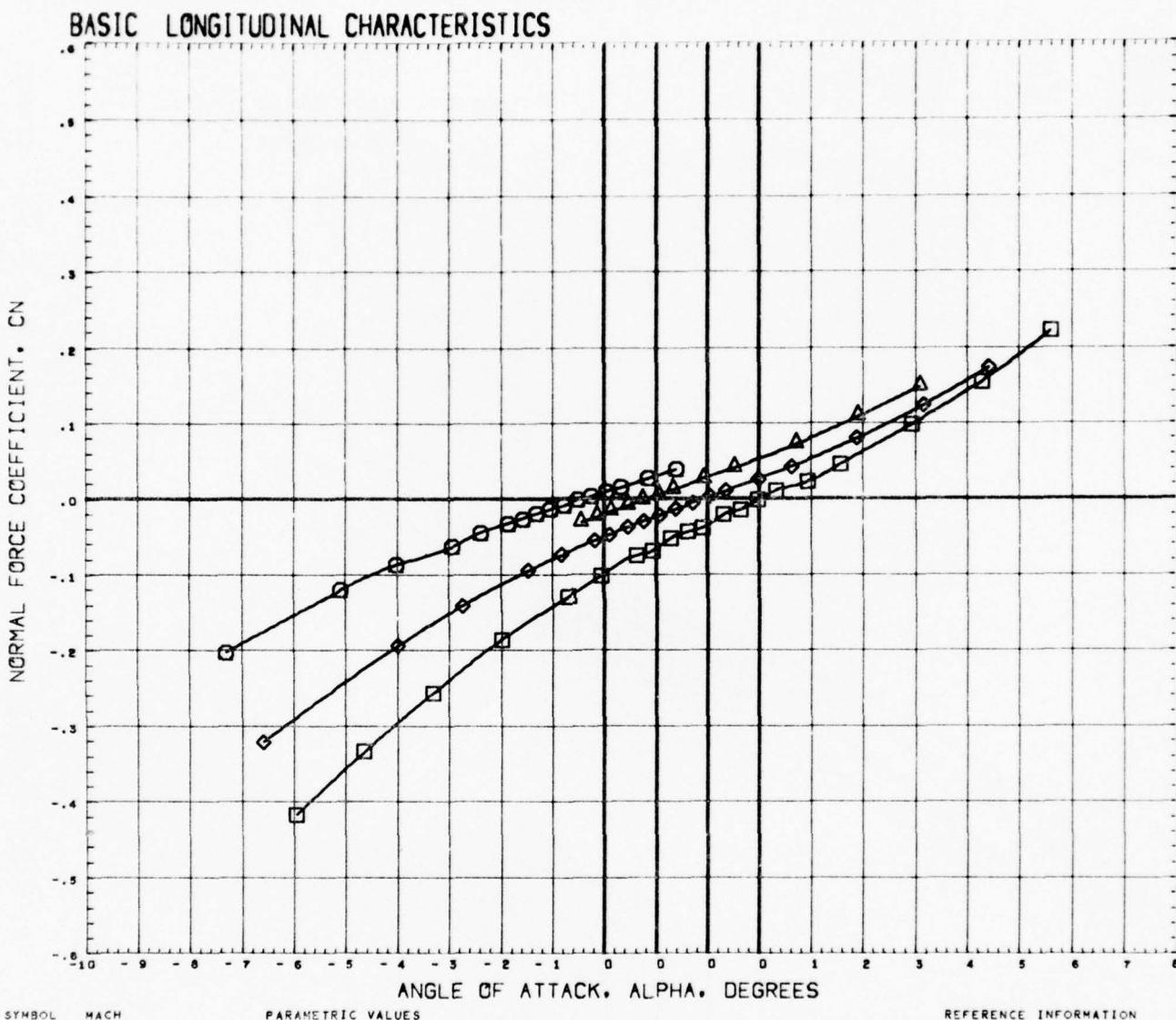
### BASIC LONGITUDINAL CHARACTERISTICS



SYMBOL      MACH                            PARAMETRIC VALUES  
 □            1.046      PHI      0.000      M-LGTH      0.750  
 △            1.101      C-LGTH    5.000      C-DIA      0.400  
 ◇            1.199  
 □            1.301

REFERENCE FILE

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 ZMRP      0.0000      INCHES  
 SCALE      0.0000      NONE



SYMBOL	MACH
○	0.500
△	0.797
◇	0.947
□	1.000

PARAMETRIC VALUES			
PHI	0.000	M-LGTH	1.500
C-LGTH	5.000	C-DIA	0.400

REFERENCE INFORMATION		
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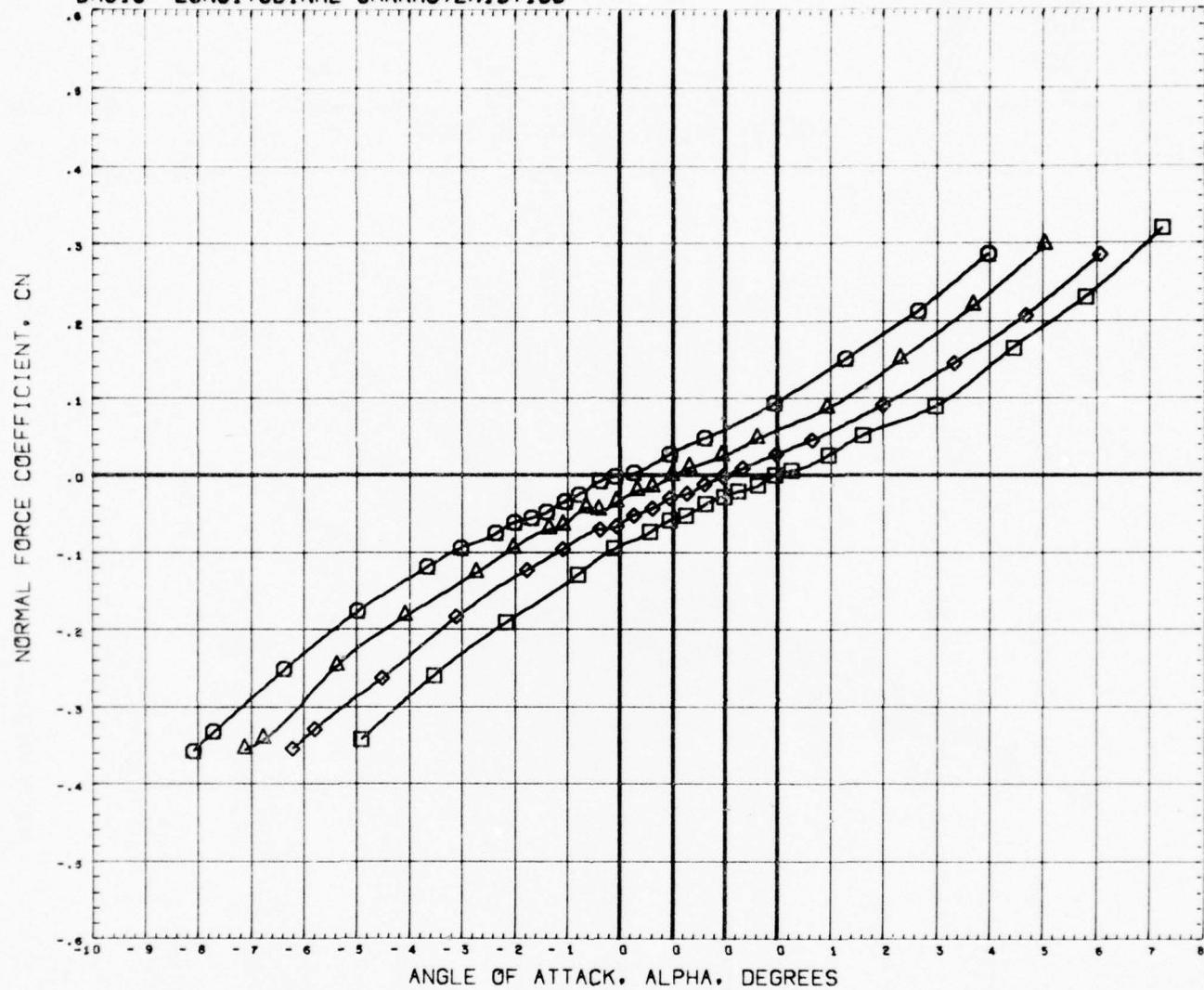
REFERENCE FILE

AEDC TEST PWT-4T201 CONE-CYLINDER, N1M2B1C1

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### BASIC LONGITUDINAL CHARACTERISTICS



SYMBOL      MACH                    PARAMETRIC VALUES

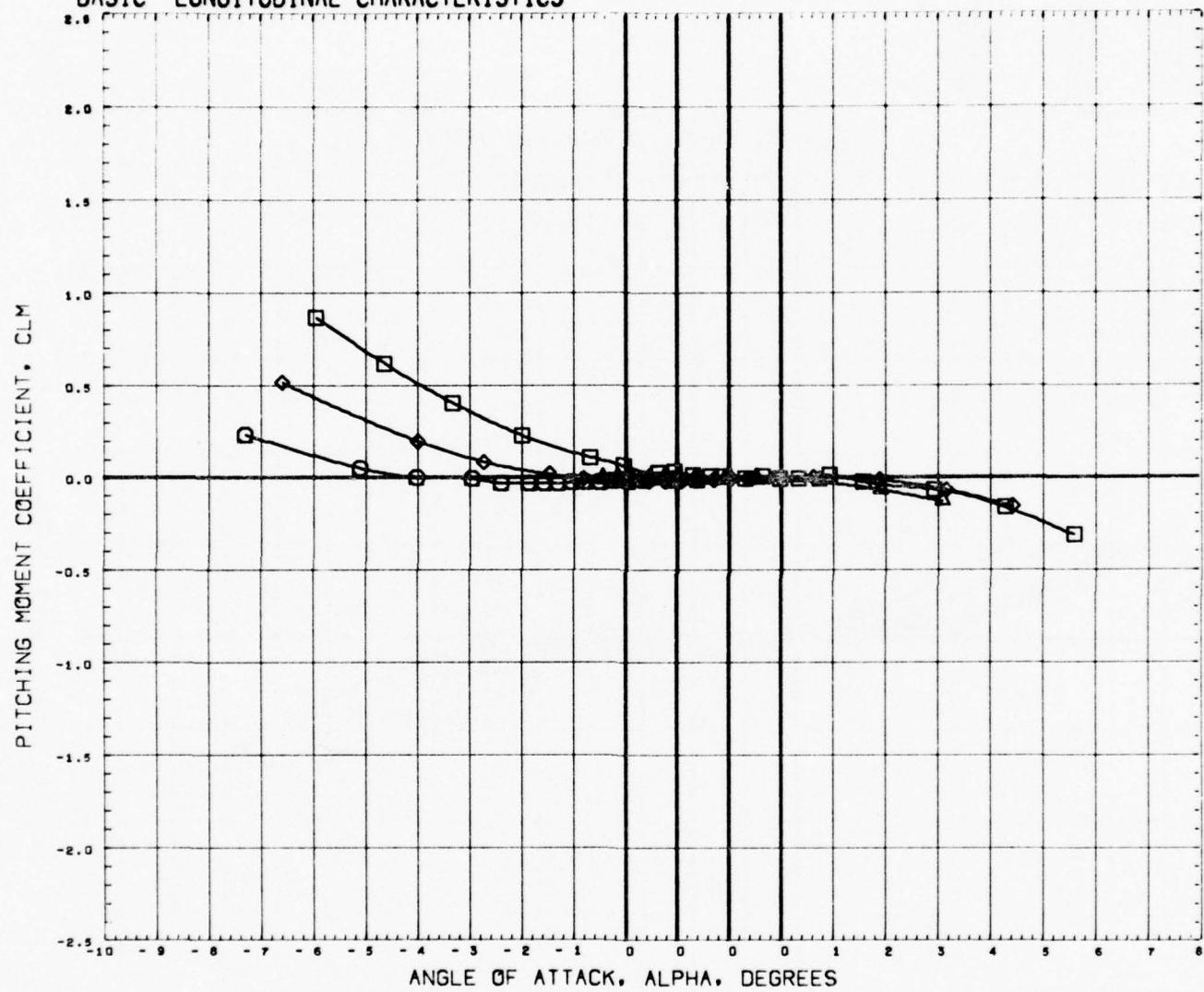
○	1.048	PHI	0.000	M-LGTH	1.500
△	1.099	C-LGTH	5.000	C-DIA	0.400
◊	1.199				
□	1.300				

REFERENCE FILE

REFERENCE INFORMATION

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## BASIC LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH		PARAMETRIC VALUES	
○	0.500	PHI	0.000	M-LGTH
△	0.797	C-LGTH	5.000	C-DIA
◊	0.947			
□	1.000			

REFERENCE INFORMATION		
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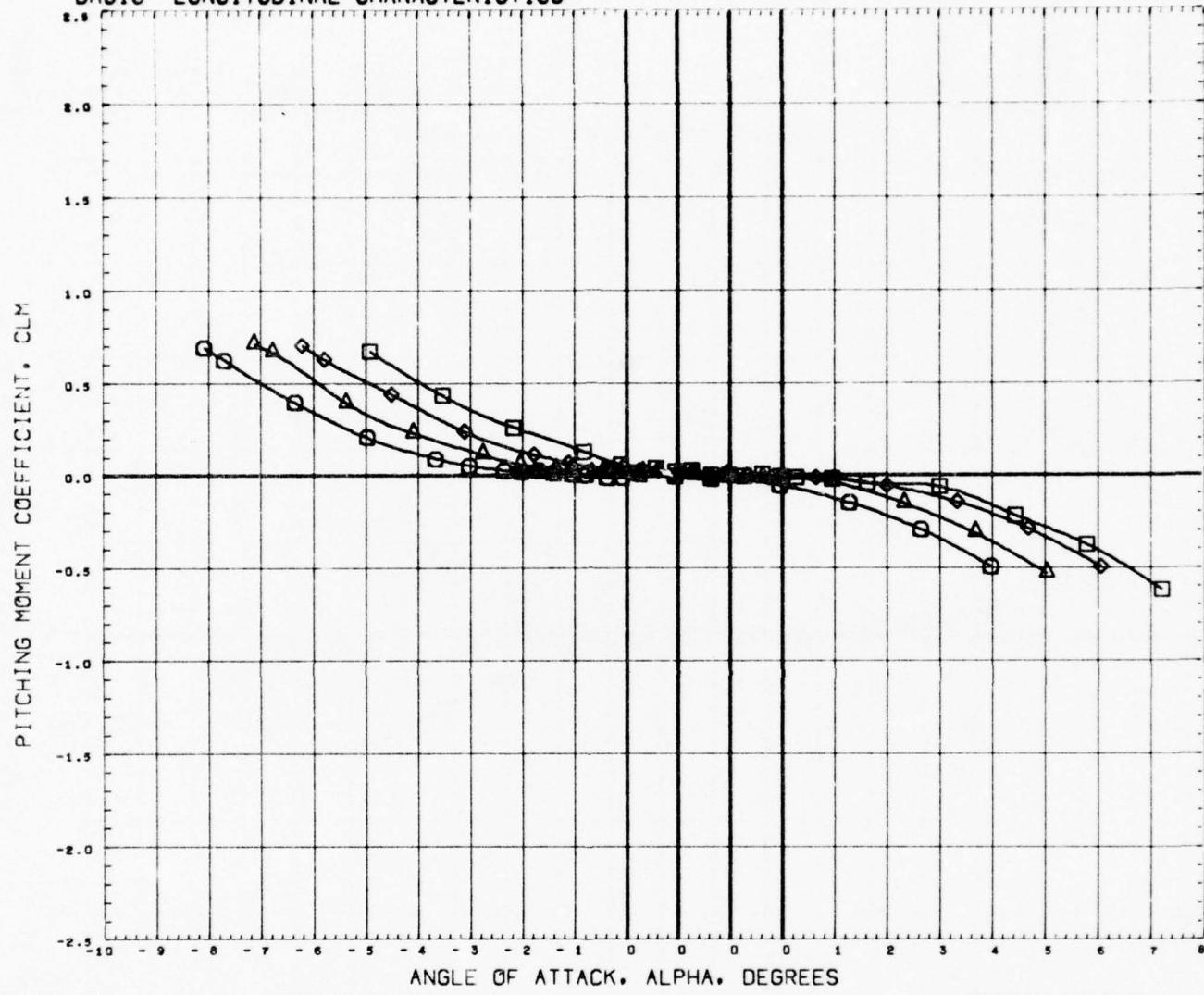
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AEDC TEST PWT-4T201 CONE-CYLINDER. N1M2B1C1

(CRTAM08) 10 MAR 72

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### BASIC LONGITUDINAL CHARACTERISTICS

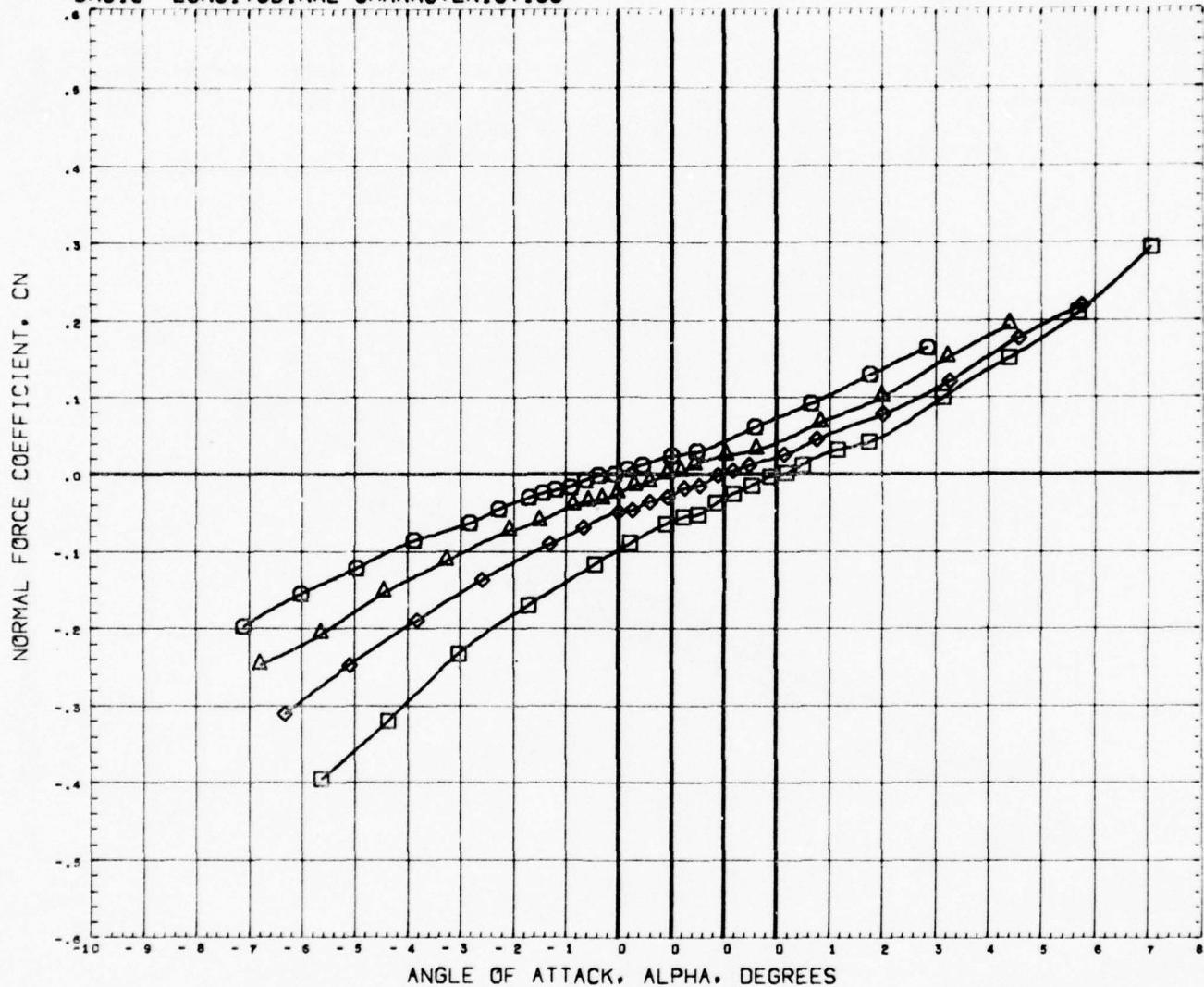


SYMBOL	MACH	FHI	PARAMETRIC VALUES	M-LGTH	C-DIA
○	1.048	0.000		1.500	
△	1.099	C-LGTH	5.000	C-DIA	0.400
◊	1.199				
□	1.500				

REFERENCE FILE

REFERENCE INFORMATION		
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ZMRP	0.0000	INCHES
SCALE	0.0000	NONE

### BASIC LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES
○	0.500	PHI 0.000 M-LGTH 1.500
△	0.801	C-LGTH 5.000 C-DIA 0.500
◊	0.948	
□	0.999	

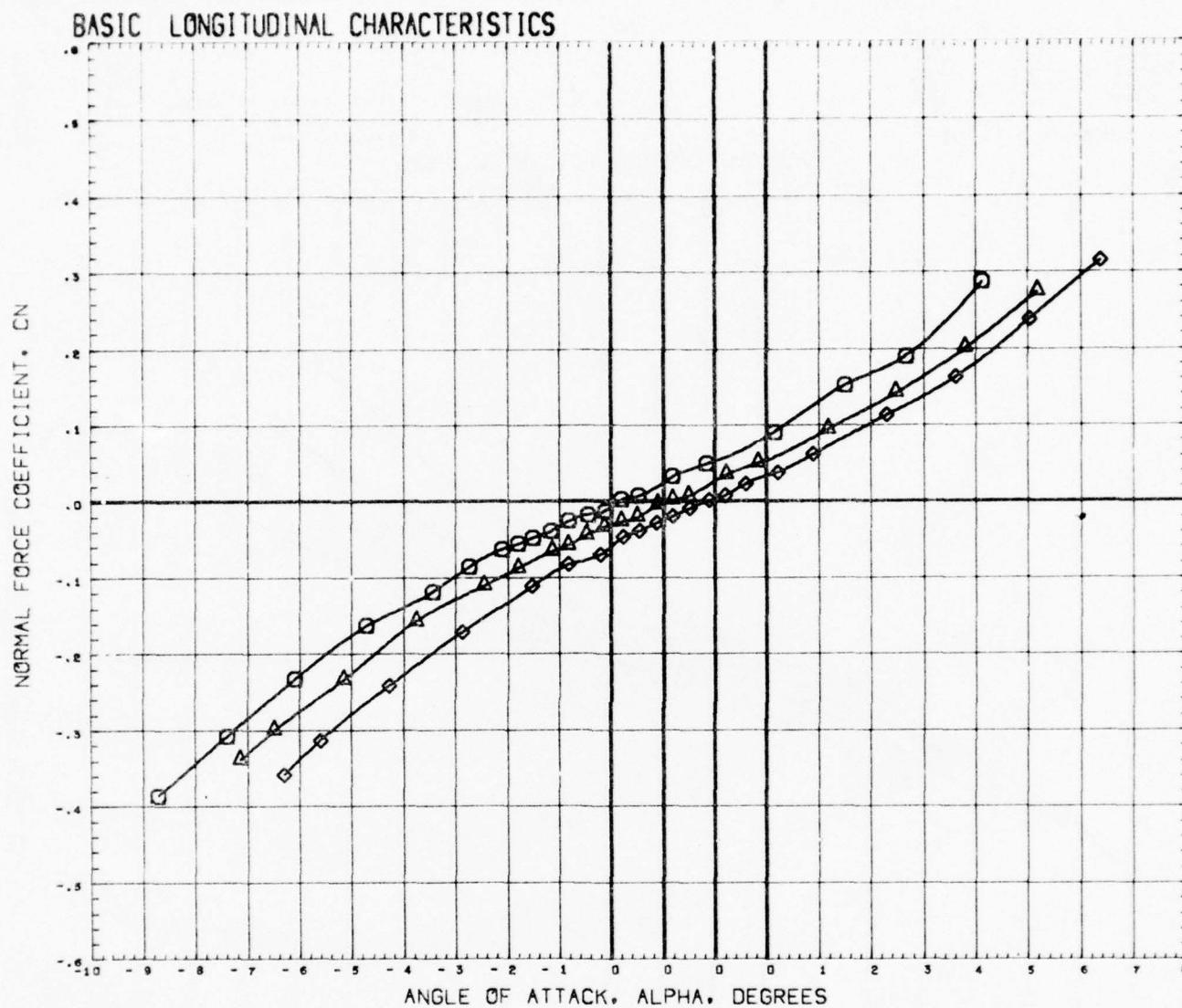
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YMRP	0.0000	INCHES
ZMRP	0.0000	INCHES
SCALE	0.0000	NONE

REFERENCE FILE

AEDC TEST PWT-4T201 CONE-CYLINDER, N1M2C2

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△○◊

PARAMETRIC VALUES

SYMBOL	MACH	PHI	M-LGTH	C-DIA
△	1.104	0.000	1.500	
○	1.199	5.000		0.500
◊	1.299			

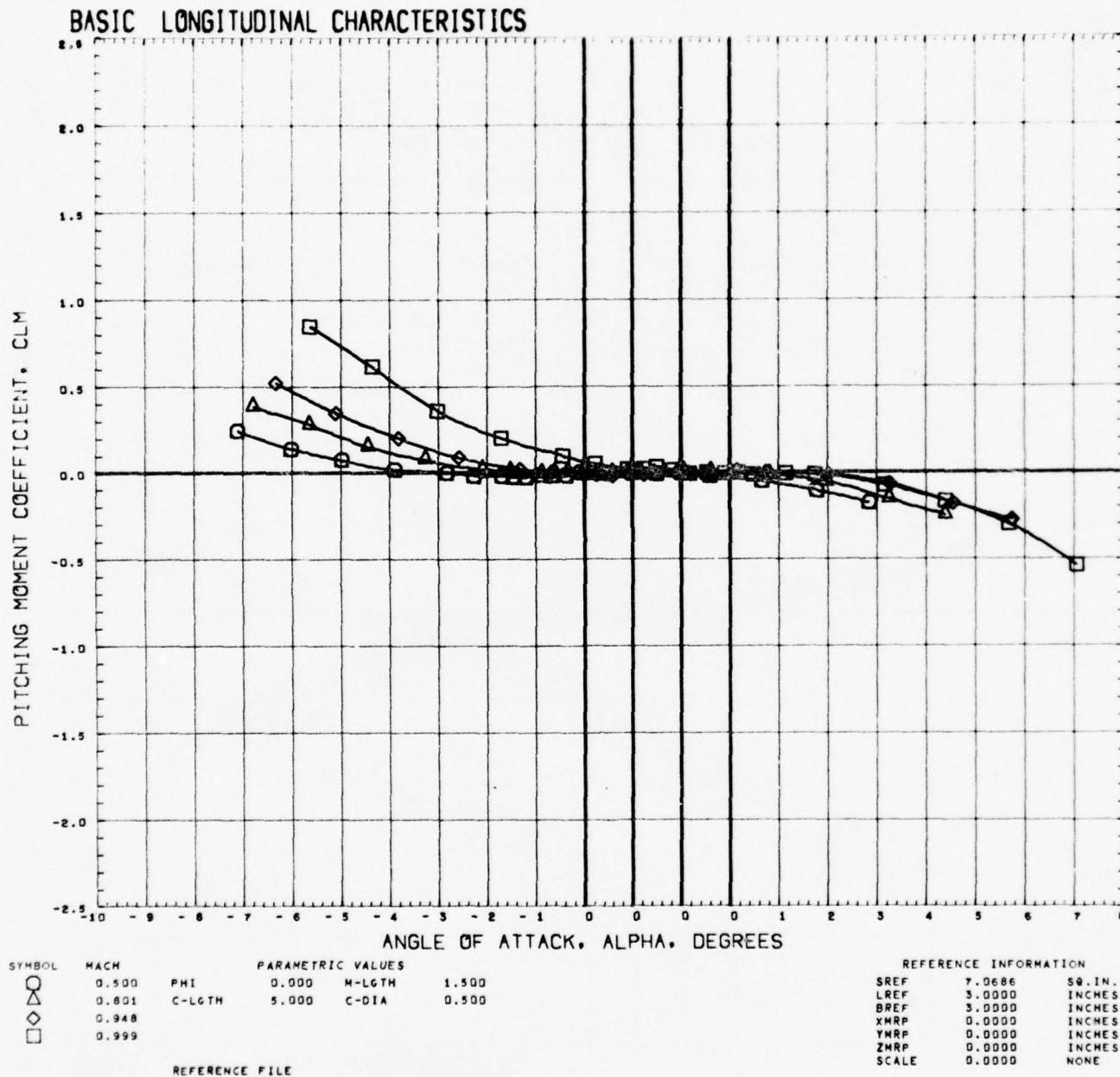
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AEDC TEST PWT-4T201 CONE-CYLINDER, N1M2C2

(RTAM10) 10 MAR 72

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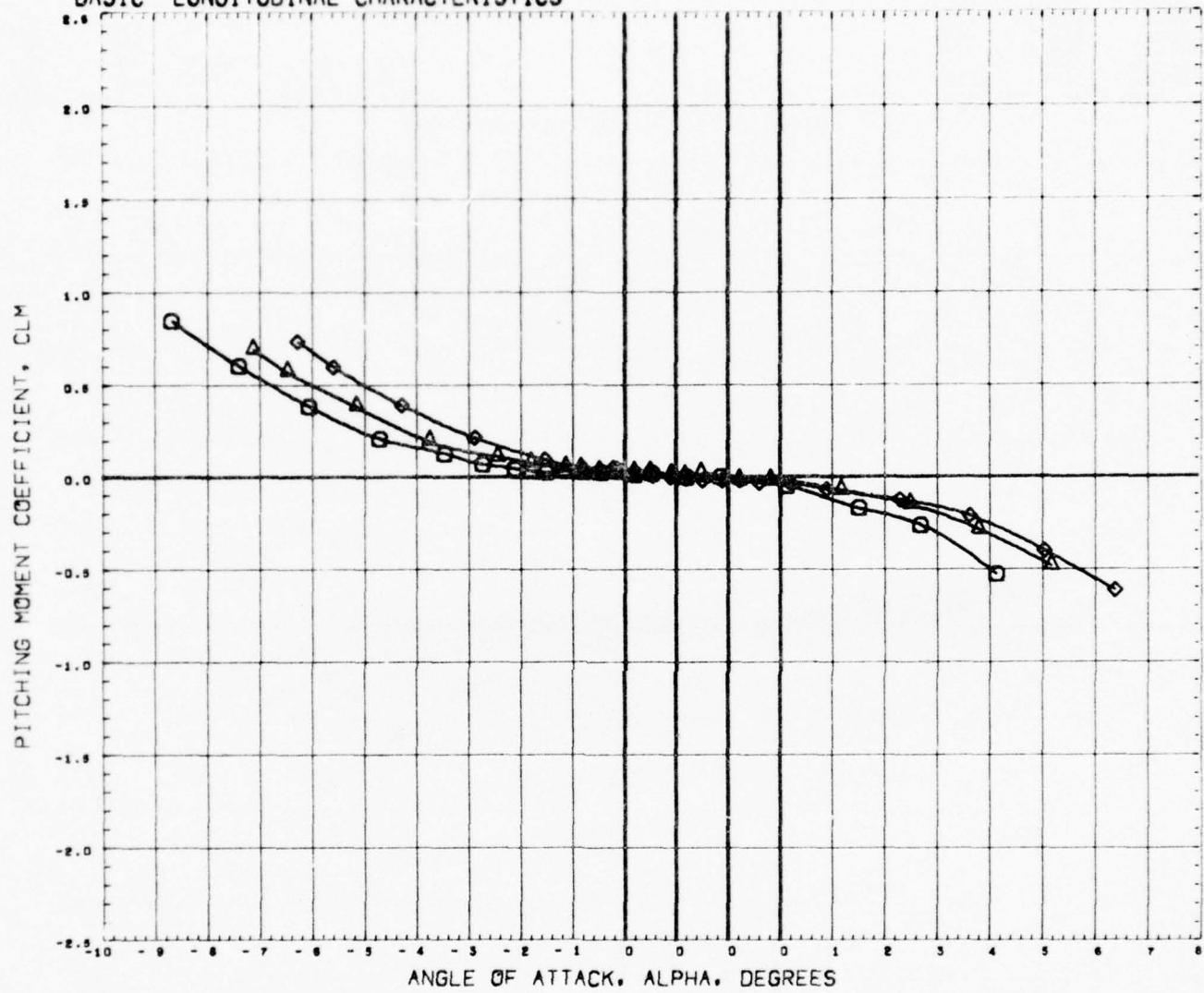


AEDC TEST PWT-4T201 CONE-CYLINDER, N1M2C2

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## BASIC LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH		PARAMETRIC VALUES		
○	1.104	PHI	0.000	M-LGTH	1.500
△	1.199	C-LGTH	5.000	C-DIA	0.500
◊	1.299				

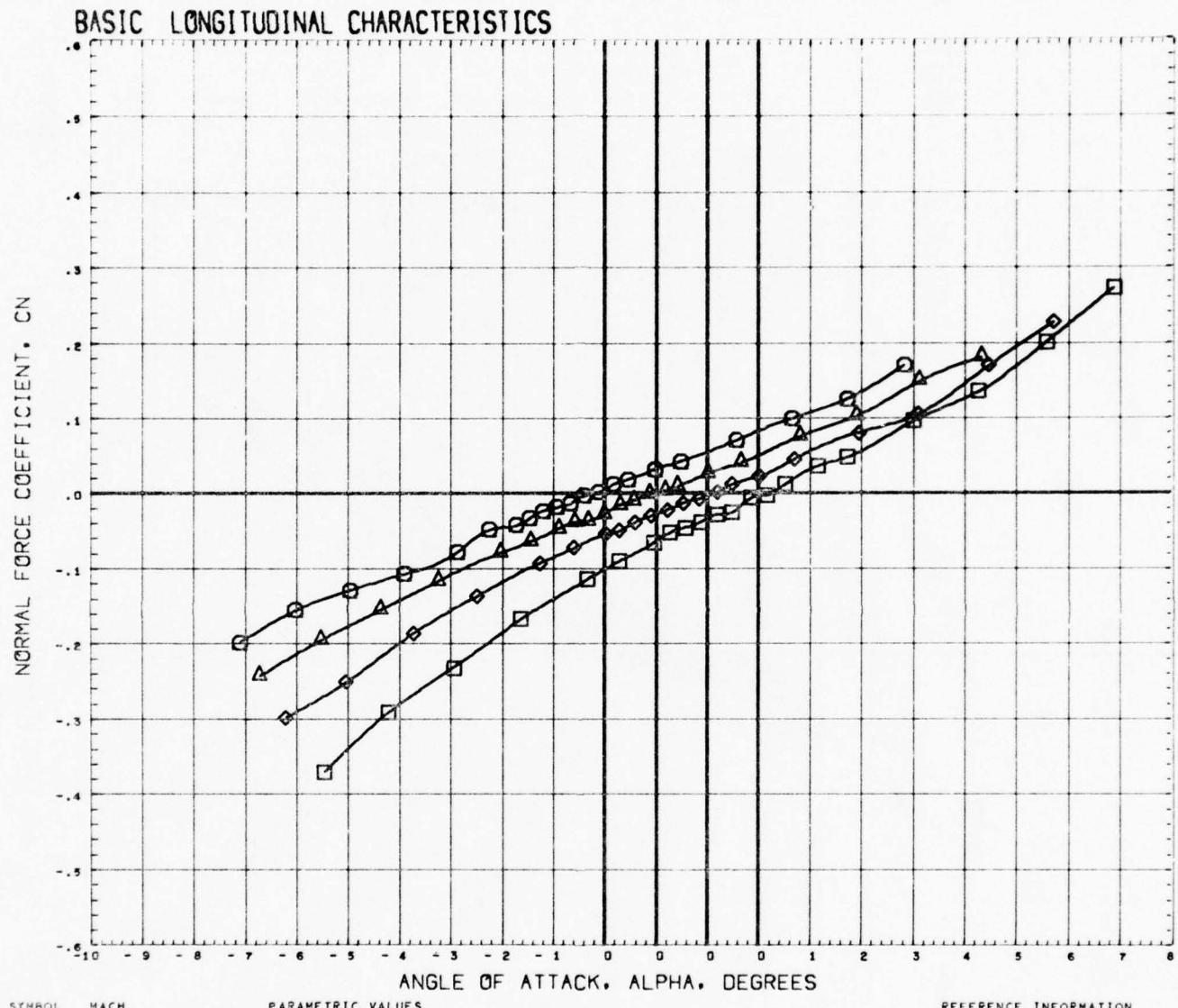
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SCALE	0.0000	NONE

**REFERENCE FILE**

AEDC TEST PWT-4T201 CONE-CYLINDER, N1M2C2

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SYMBOL	MACH	PARAMETRIC VALUES
$\circ$	0.500	PHI 0.000 M-LGTH 1.500
$\triangle$	0.801	C-LGTH 5.000 C-DIA 0.670
$\diamond$	0.953	
$\square$	0.999	

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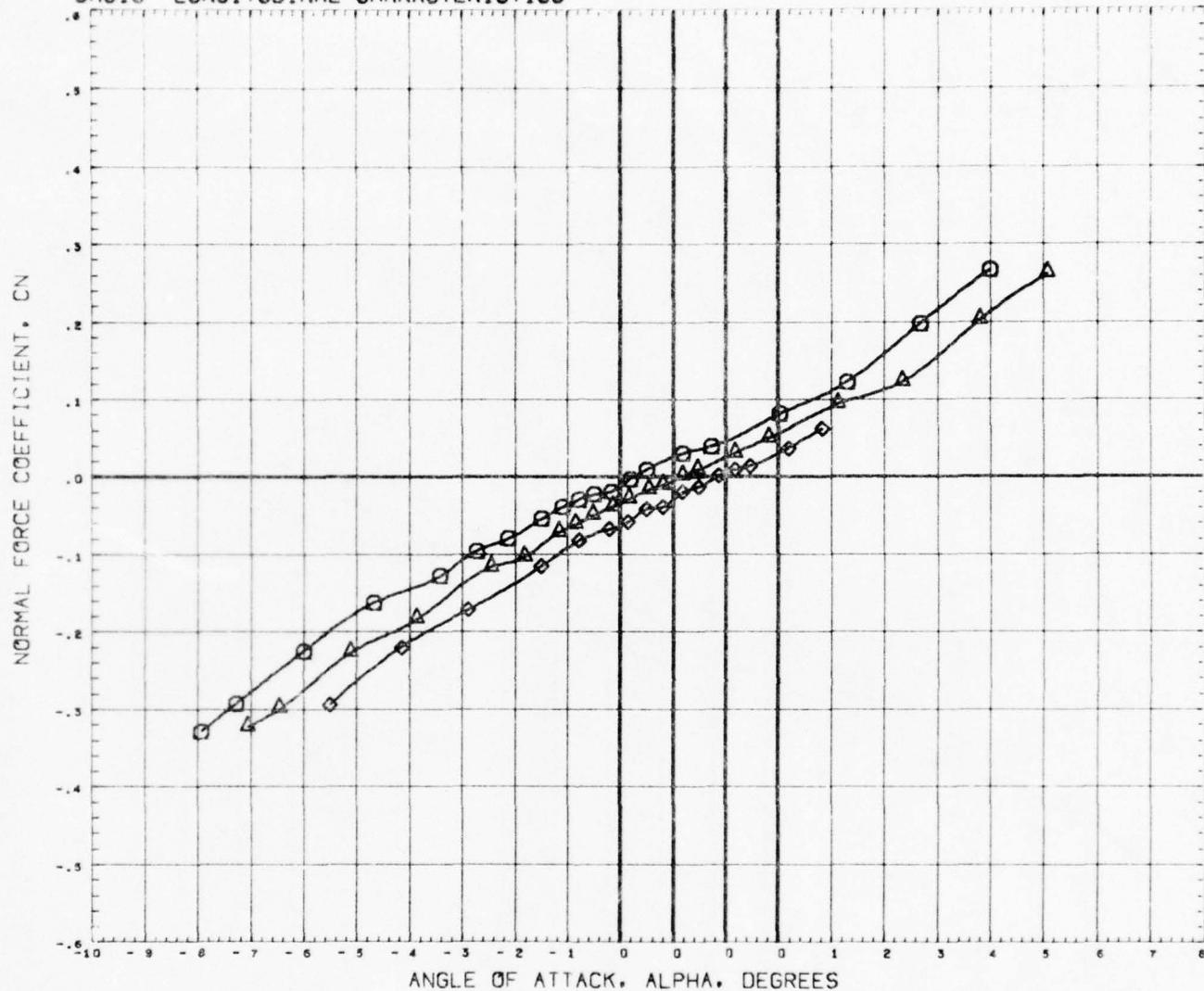
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(RTAM11) 10 MAR 72

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YMRF	0.0000	INCHES
ZMRF	0.0000	INCHES
SCALE	0.0000	NONE

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## BASIC LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES
	1.099	PHI 0.000 M-LGTH 1.500
	1.197	C-LGTH 5.000 C-DIA 0.670
	1.295	

REFERENCE FILE

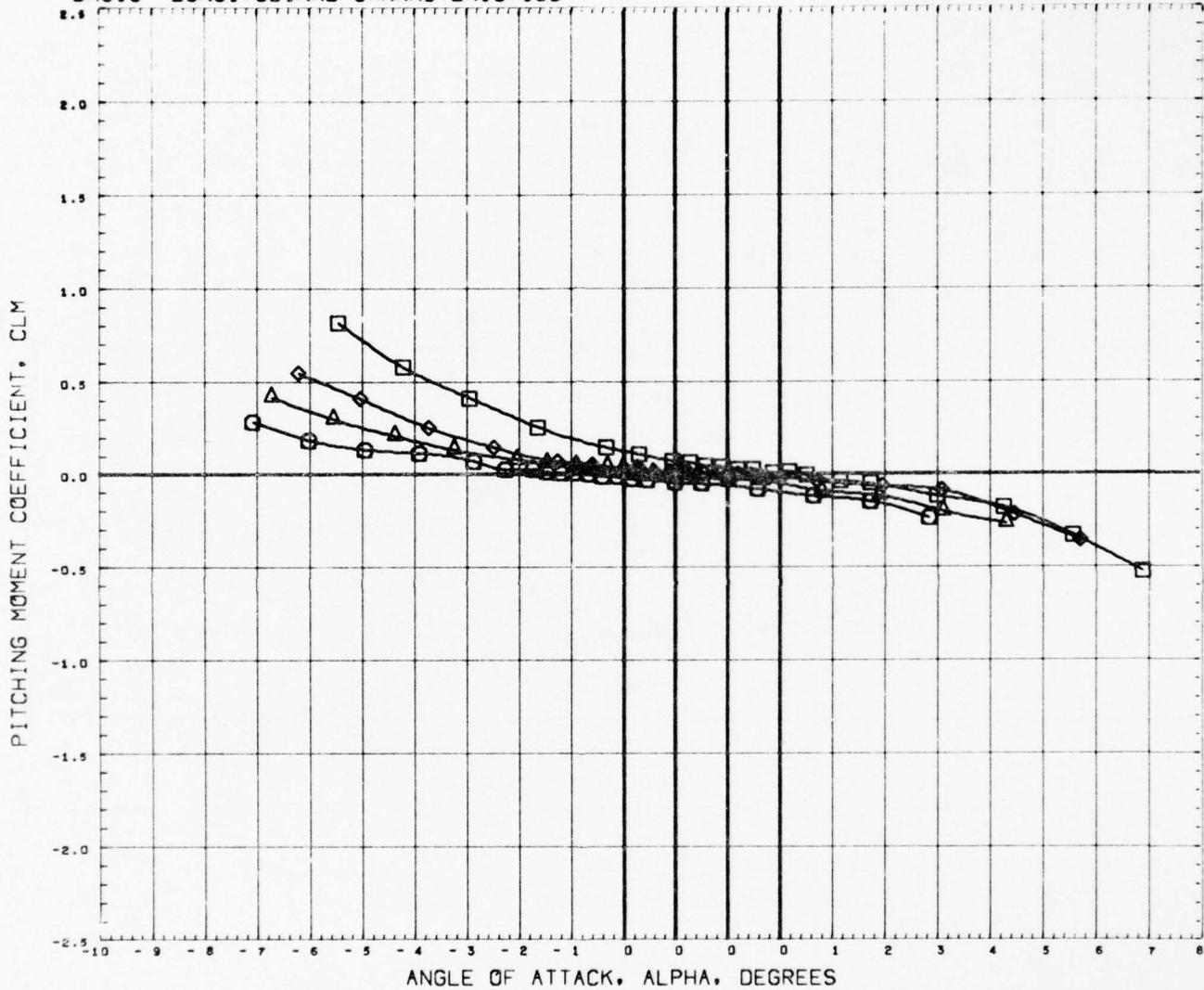
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ZMRP	0.000	INCHES
SCALE	0.000	NONE

AEDC TEST PWT-4T201 CONE-CYLINDER, N1M2C3

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## BASIC LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES		
		PHI	M-LGTH	C-DIA
○	0.500		0.000	1.500
△	0.801	C-LGTH	5.000	0.670
◊	0.953			
□	0.999			

REFERENCE FILE

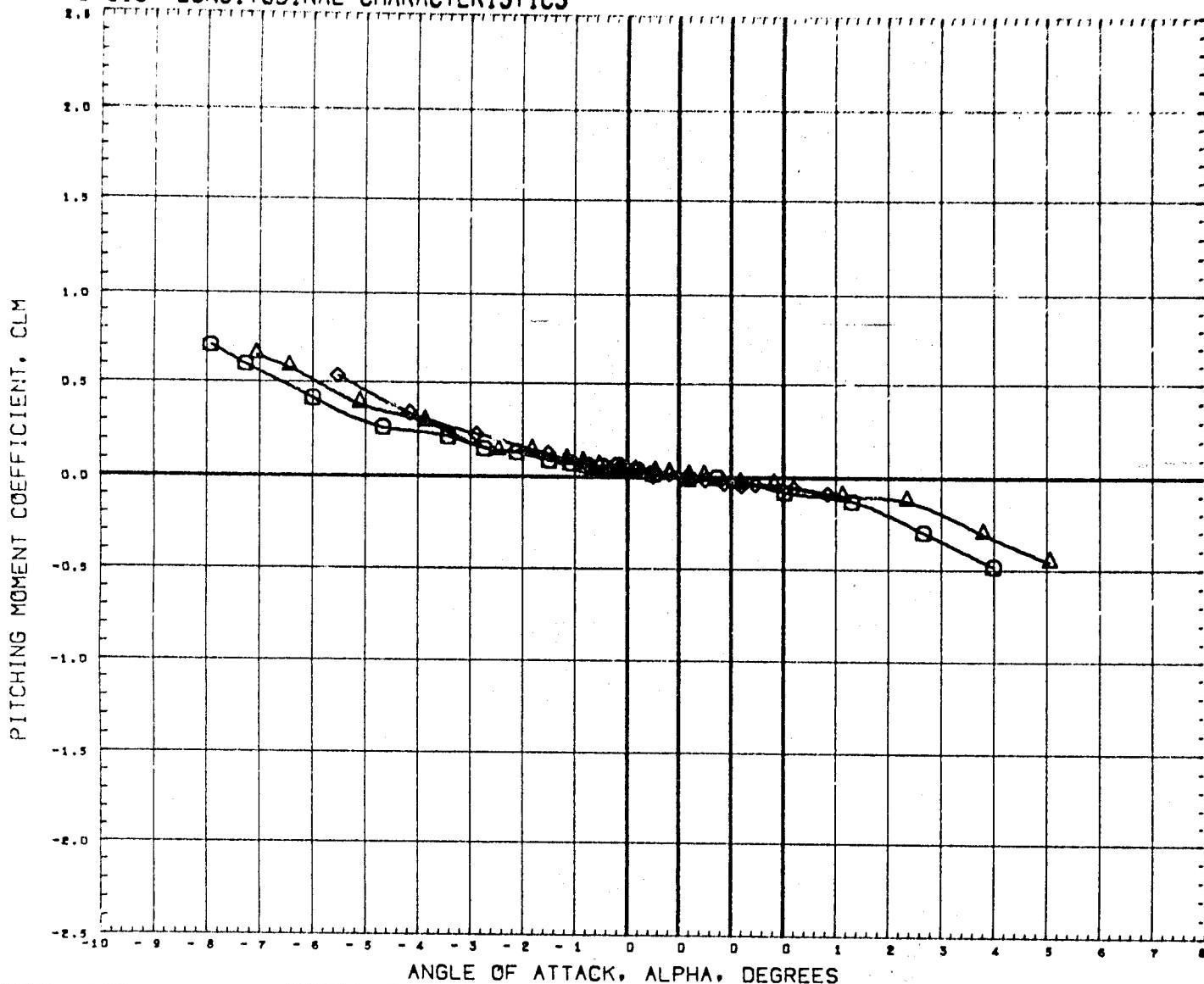
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CALE	0.0000	NONE

AEDC TEST PWT-4T201 CONE-CYLINDER. N1M2C3

(RTAM11) 10 MAR 72

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# BASIC LONGITUDINAL CHARACTERISTICS



SYMBOL      MACH                          PARAMETRIC VALUES  
 ◇      1.099      PHI      0.000      M-LGTH      1.500  
 ◇      1.197      C-LGTH      5.000      C-DIA      0.670  
 ◇      1.295

REFERENCE FILE

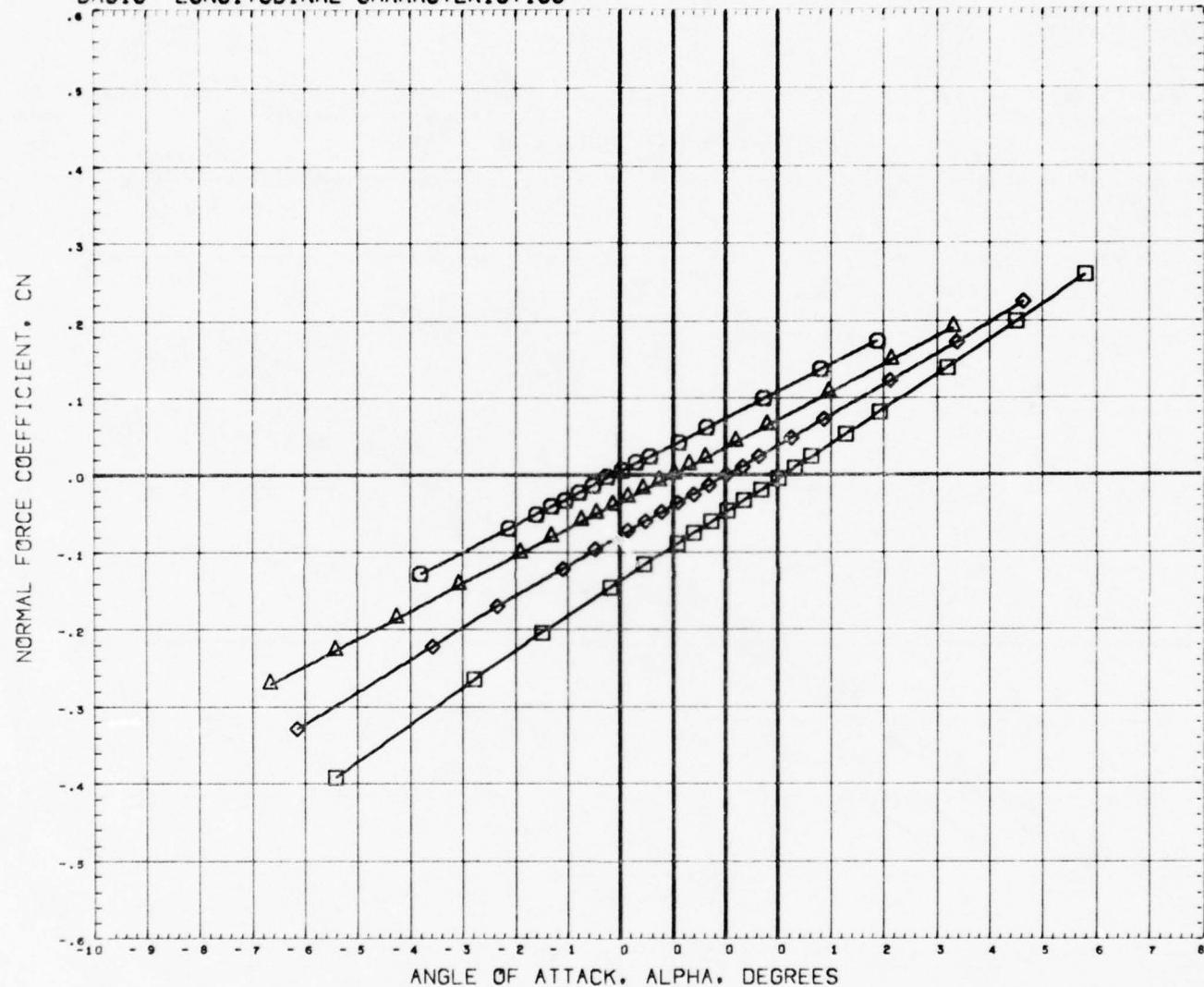
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 ZMRP      0.0000      INCHES  
 SCALE      0.0000      NONE

AEDC TEST PWT-4T201 CONE-CYLINDER, N1M2C3

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## BASIC LONGITUDINAL CHARACTERISTICS



SYMBOL      MACH  
 ○      0.500      PHI      0.000      M-LGTH      1.500  
 △      0.799      C-LGTH      5.000      C-DIA      0.400  
 ◇      0.948  
 □      1.000

PARAMETRIC VALUES  
 MACH      PHI      M-LGTH      C-LGTH      C-DIA

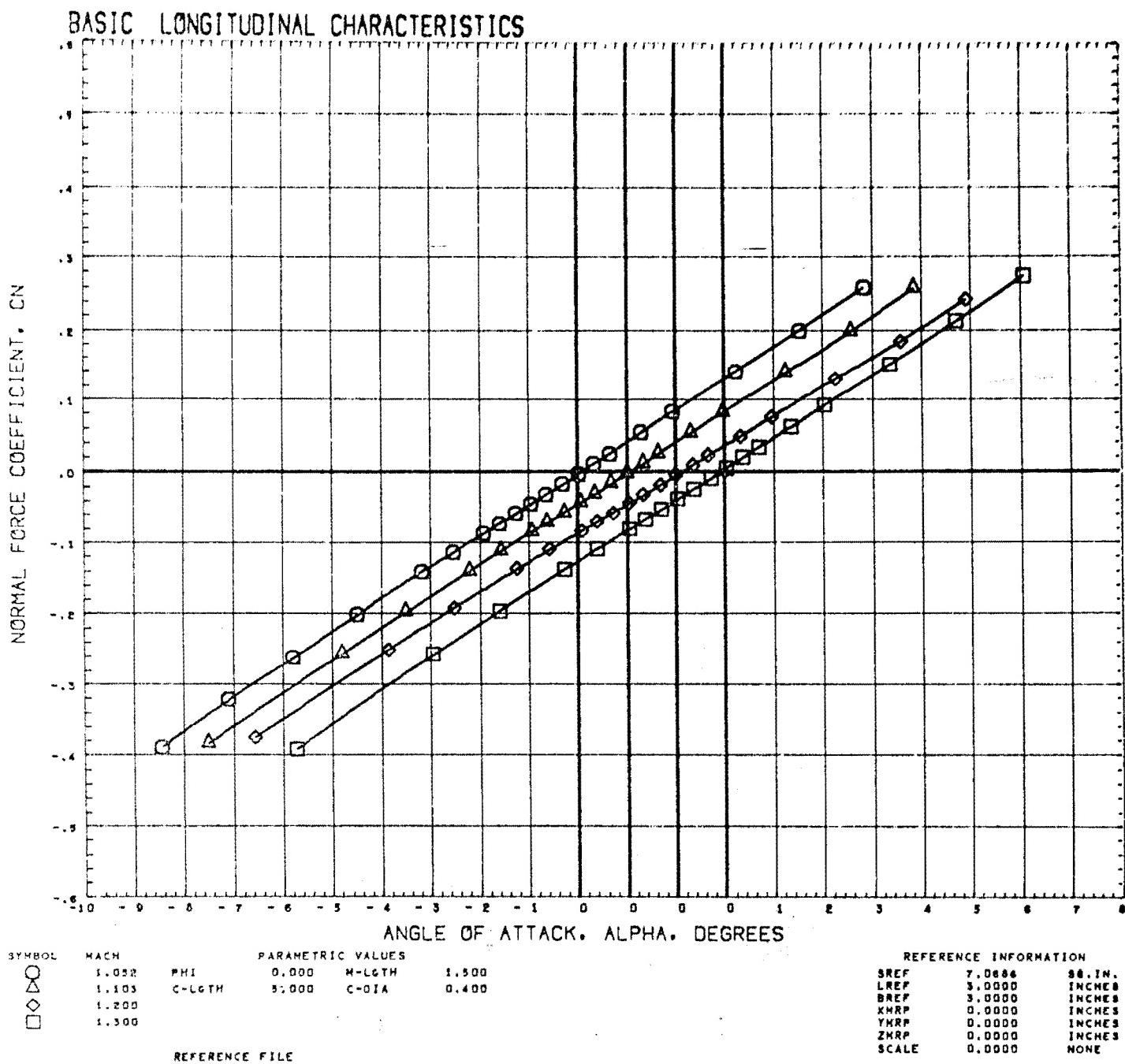
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AEDC TEST PWT-4T201 CONE-CYLINDER, N1M2CS

(RTAM12) 10 MAR 72

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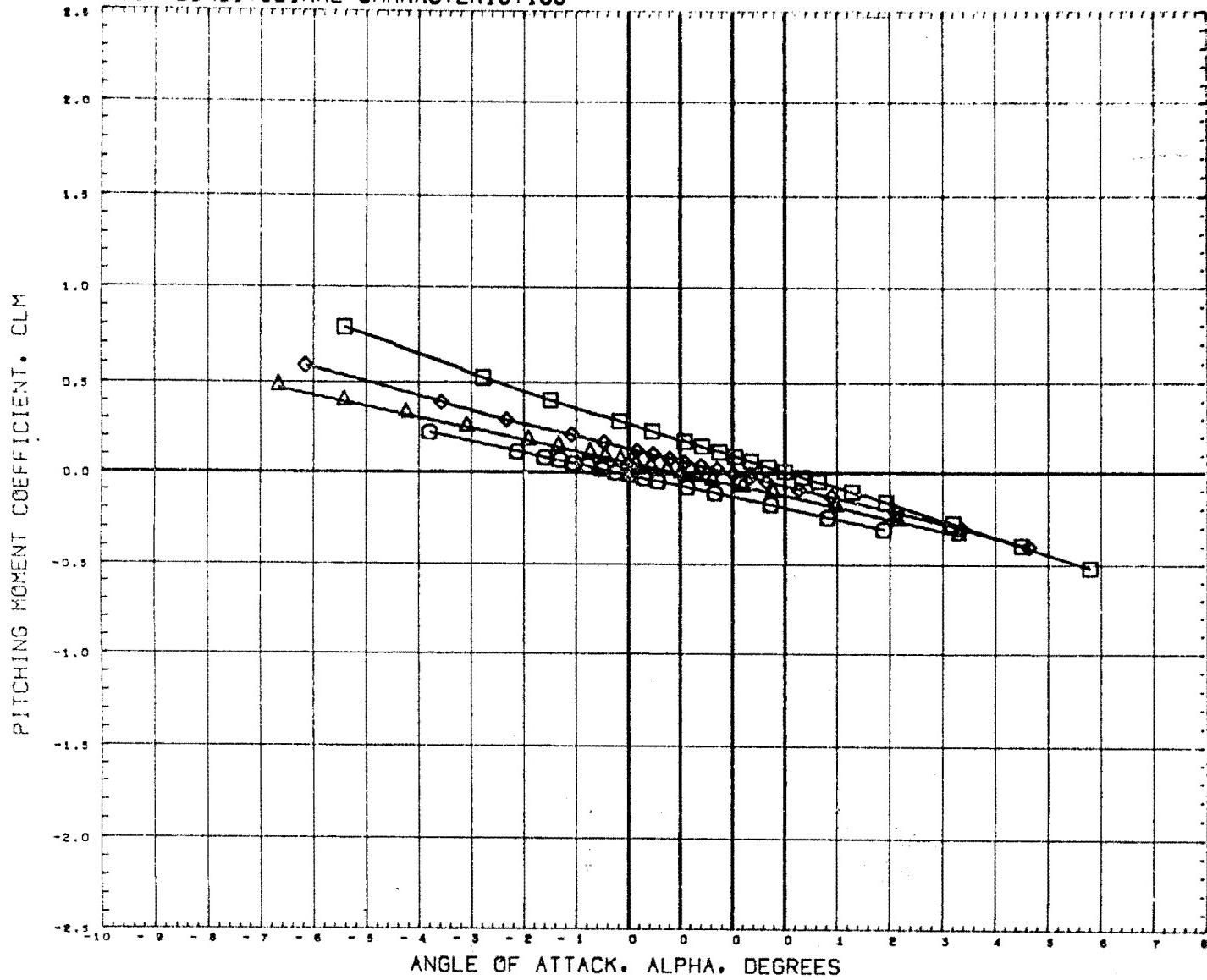
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[RTAM12] 10 MAR 72

PAGE

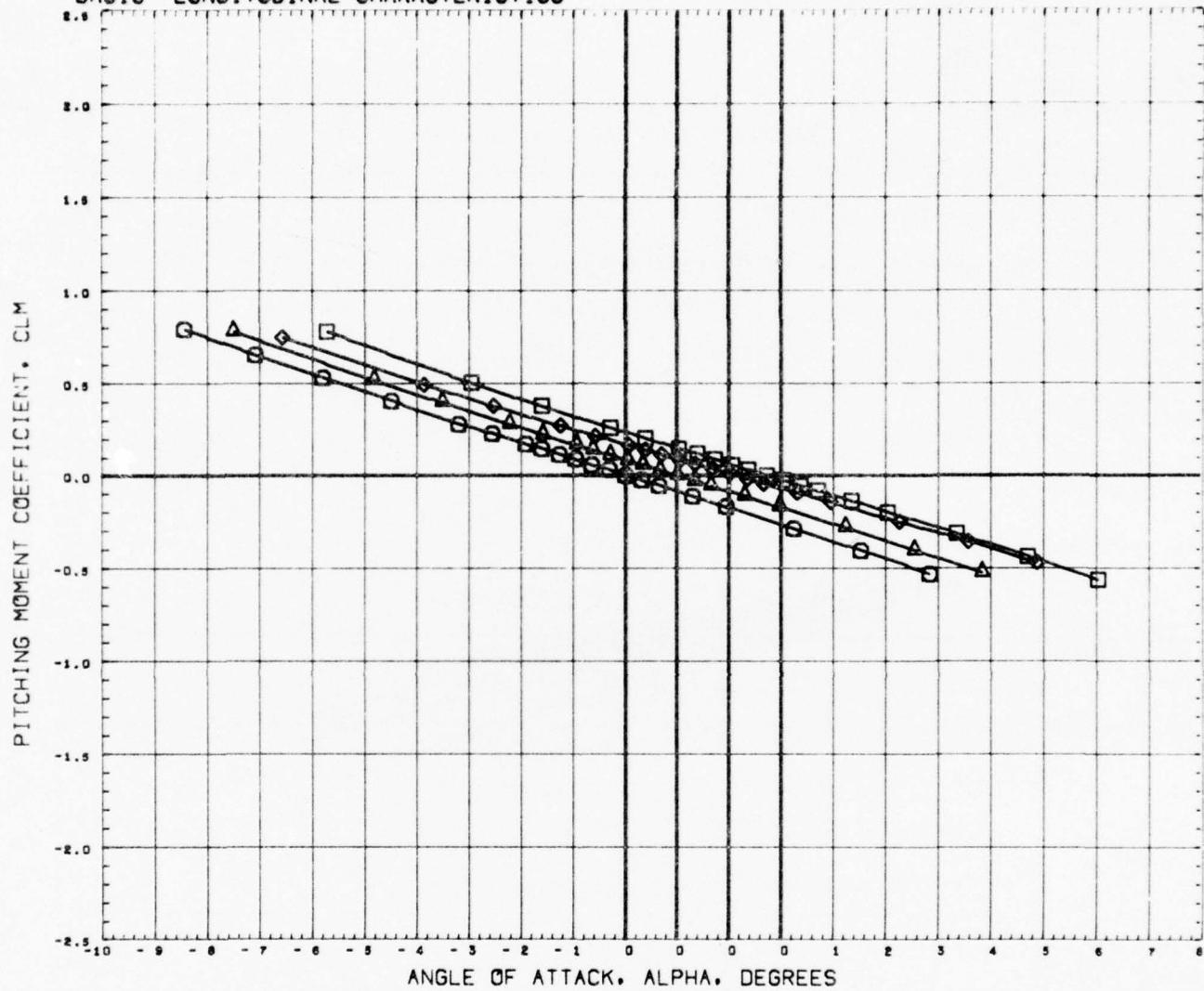
42

## BASIC LONGITUDINAL CHARACTERISTICS



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SCALE	0.0000		NONE				

### BASIC LONGITUDINAL CHARACTERISTICS



SYMBOL	HACH	PARAMETRIC VALUES
$\Delta$	1.052	PHI 0.000 M-LGTH 1.500
$\diamond$	1.103	C-LGTH 5.000 C-DIA 0.400
$\square$	1.200	
$\square$	1.300	

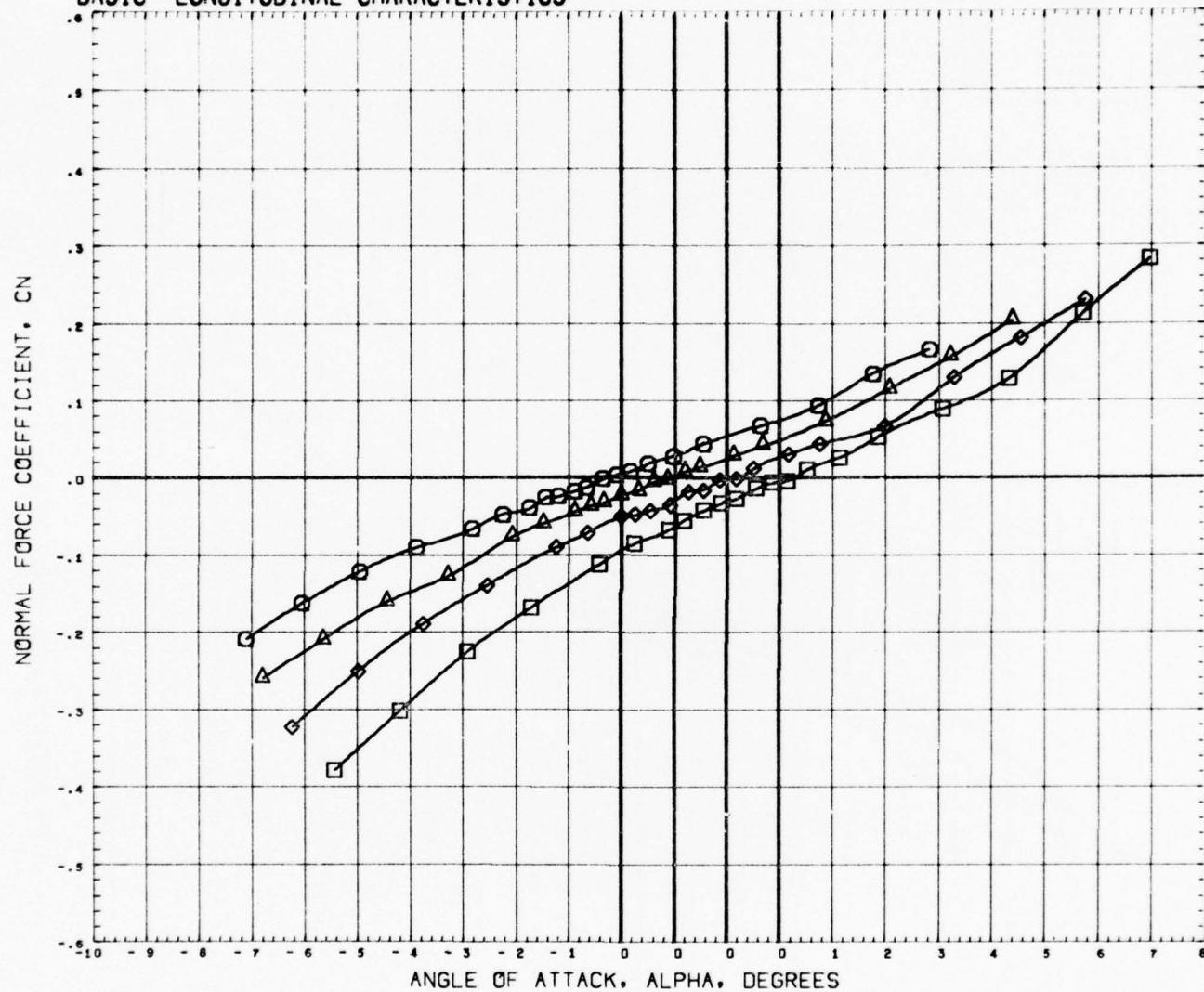
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SCALE	0.0000	NONE

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## BASIC LONGITUDINAL CHARACTERISTICS



SYMBOL      MACH                          PARAMETRIC VALUES

○	0.500	PHI	0.000	M-LGTH	2.250
△	0.801	C-LGTH	6.500	C-DIA	0.500
◊	0.949				
□	1.001				

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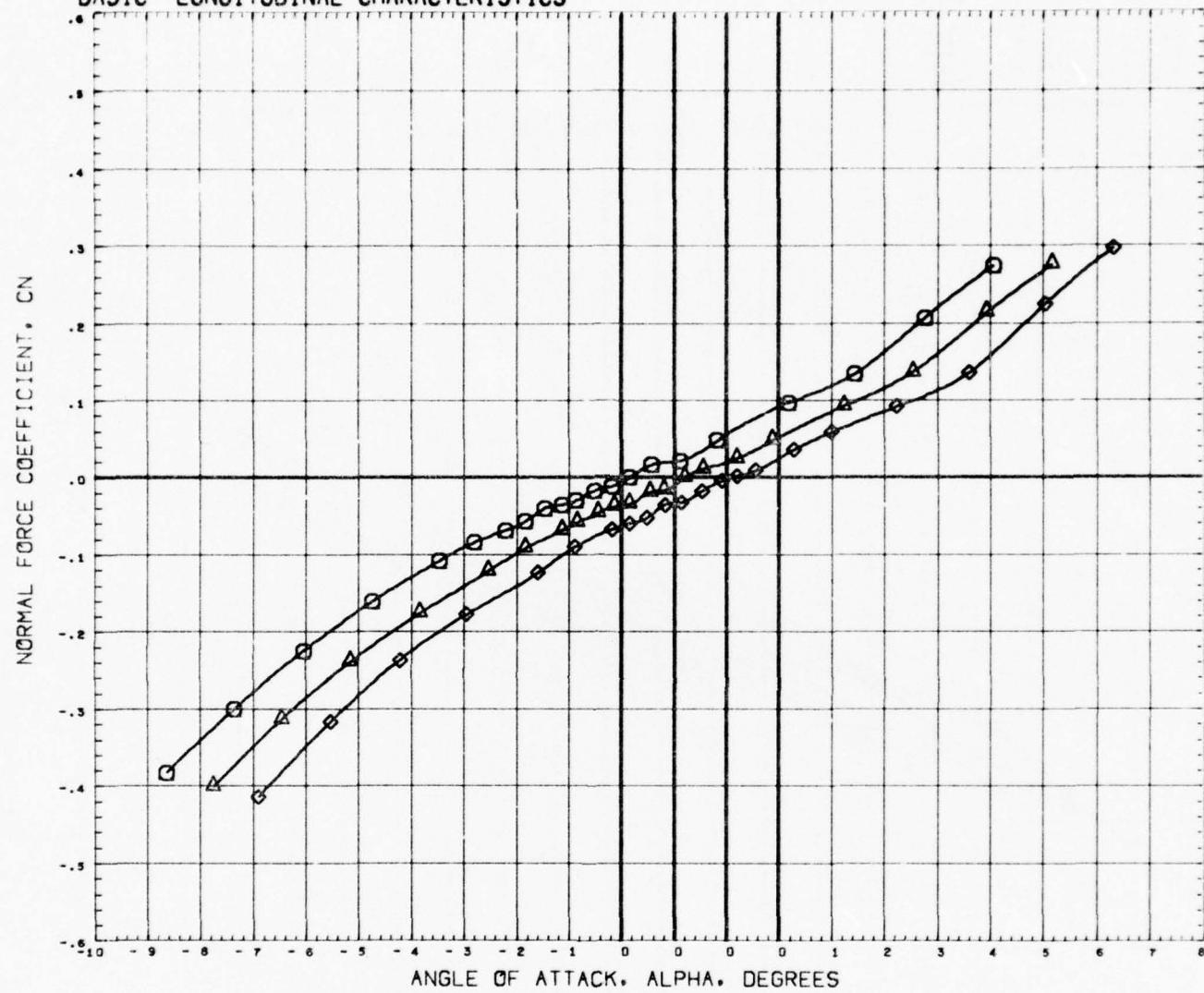
AEDC TEST PWT-4T201 CONE-CYLINDER, N1M1C4

(RTAM13) 10 MAR 72

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## BASIC LONGITUDINAL CHARACTERISTICS



SYMBOL      MACH  
 □      1.099  
 △      1.198  
 ◇      1.297

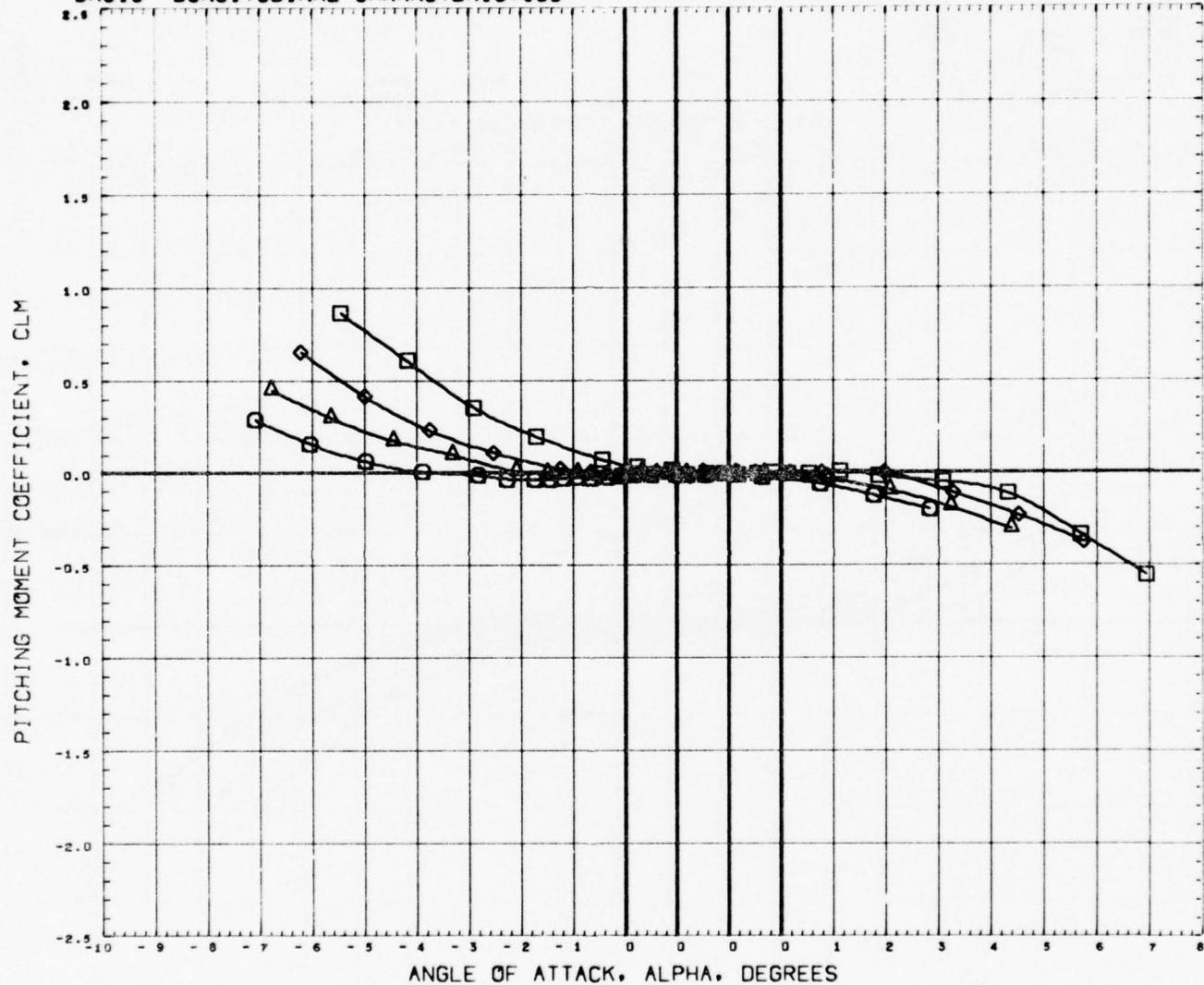
PARAMETRIC VALUES  
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 C-LGTH      6.500      C-DIA      0.500

REFERENCE INFORMATION  
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 ZMRF      0.0000      INCHES  
 SCALE      0.0000      NONE

REFERENCE FILE

AEDC TEST PWT-4T201 CONE-CYLINDER, N1M1C4 ······ (CRTAM13) 10 MAR 72 PAGE 46

## BASIC LONGITUDINAL CHARACTERISTICS



SYMBOL      MACH      PARAMETRIC VALUES

○	0.500	PHT	0.000	H-LGTH	2.250
△	0.801	C-LGTH	6.500	-C-DIA	0.500
◊	0.949				
□	1.001				

REFERENCE FILE

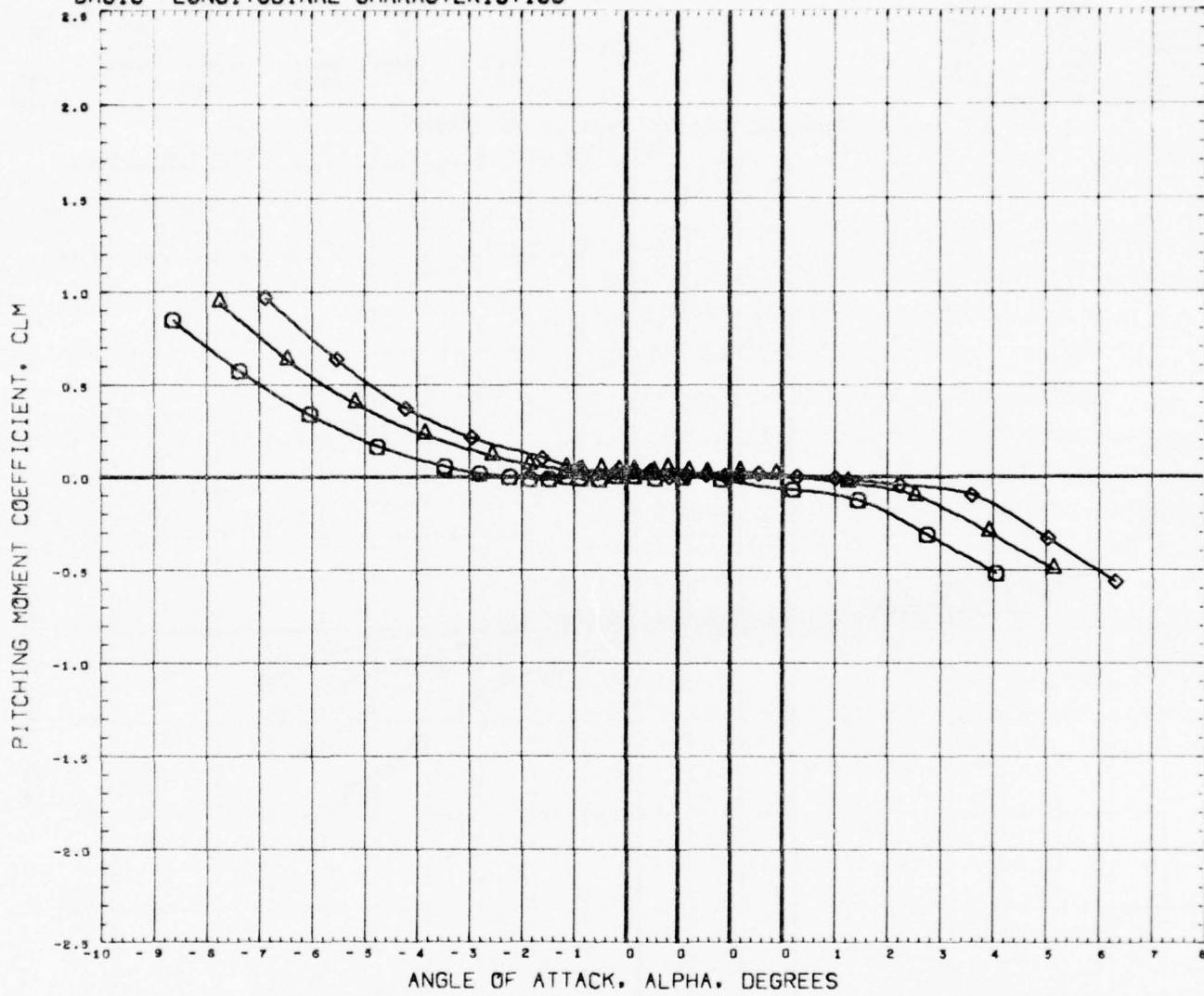
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YMRP	0.0000	INCHES
ZMRP	0.0000	INCHES
SCALE	0.0000	NONE

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## BASIC LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH		PARAMETRIC VALUES	
○	1.099	PHI	0.000	M-LGTH 2.250
△	1.198	C-LGTH	6.500	C-DIA 0.500
◇	1.297			

REFERENCE INFORMATION

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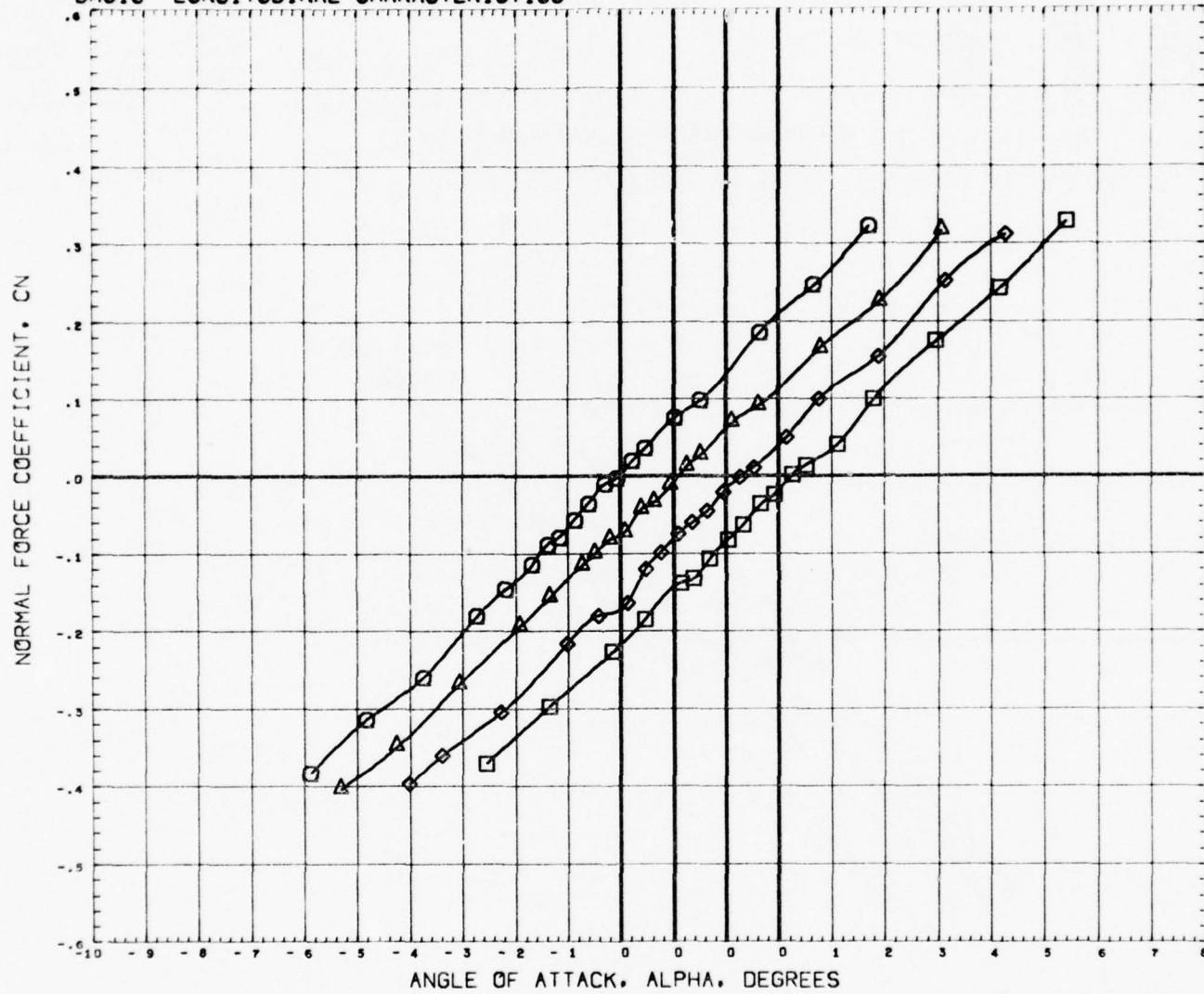
AEDC TEST PWT-4T201 CONE-CYLINDER, N1M1C4

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## BASIC LONGITUDINAL CHARACTERISTICS



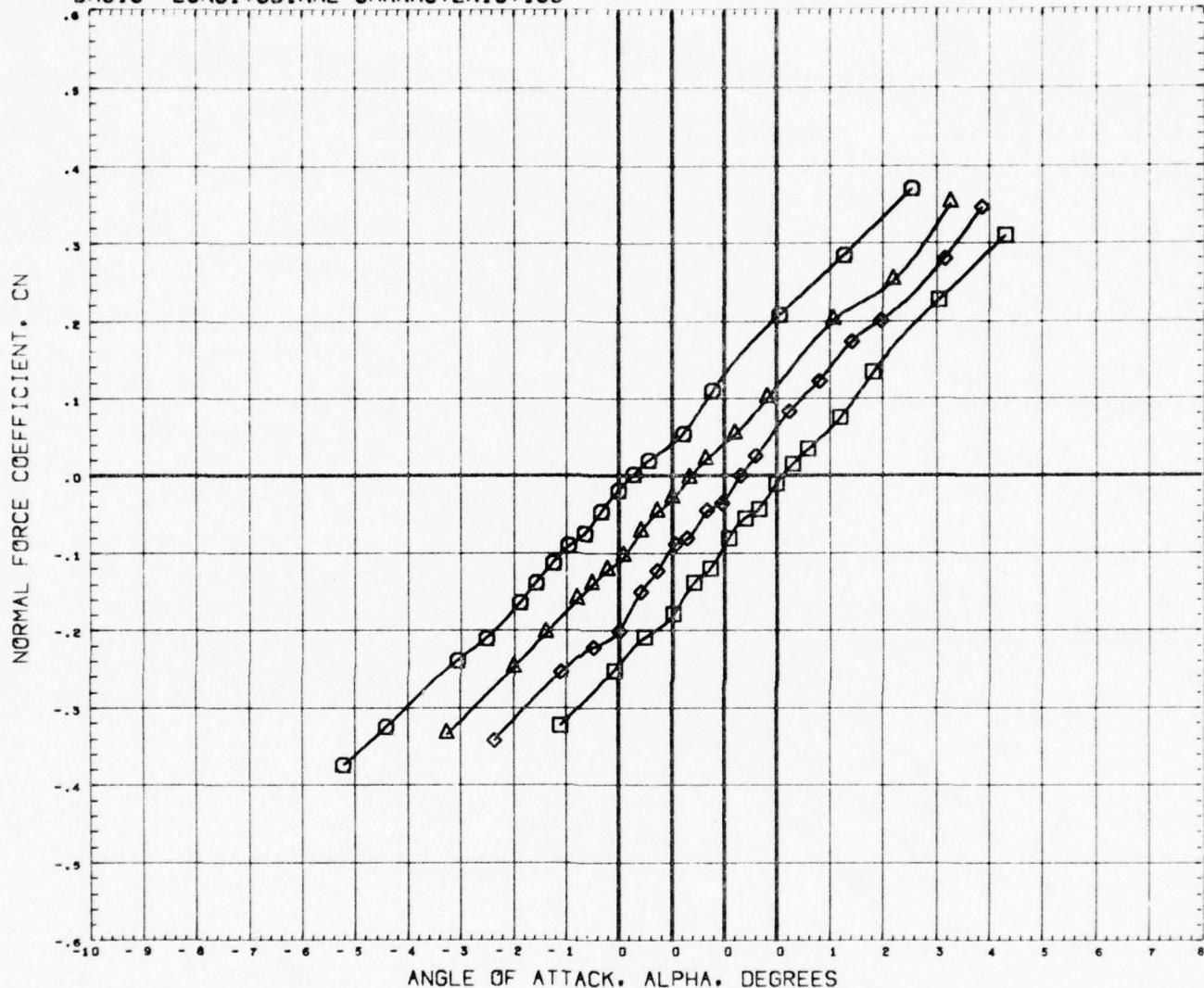
SYMBOL	MACH		PARAMETRIC VALUES		
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△	0.798	LS-LGH	2.500	S-WDTH	0.200
◊	0.950	R-WDTH	1.000		
□	1.001				

**REFERENCE FILE**

REFERENCE INFORMATION		
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ZMRP	0.0000	INCHES
SCALE	0.0000	NONE

AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL, N1R1 (RTAR01) 10 MAR 72 PAGE 49

### BASIC LONGITUDINAL CHARACTERISTICS



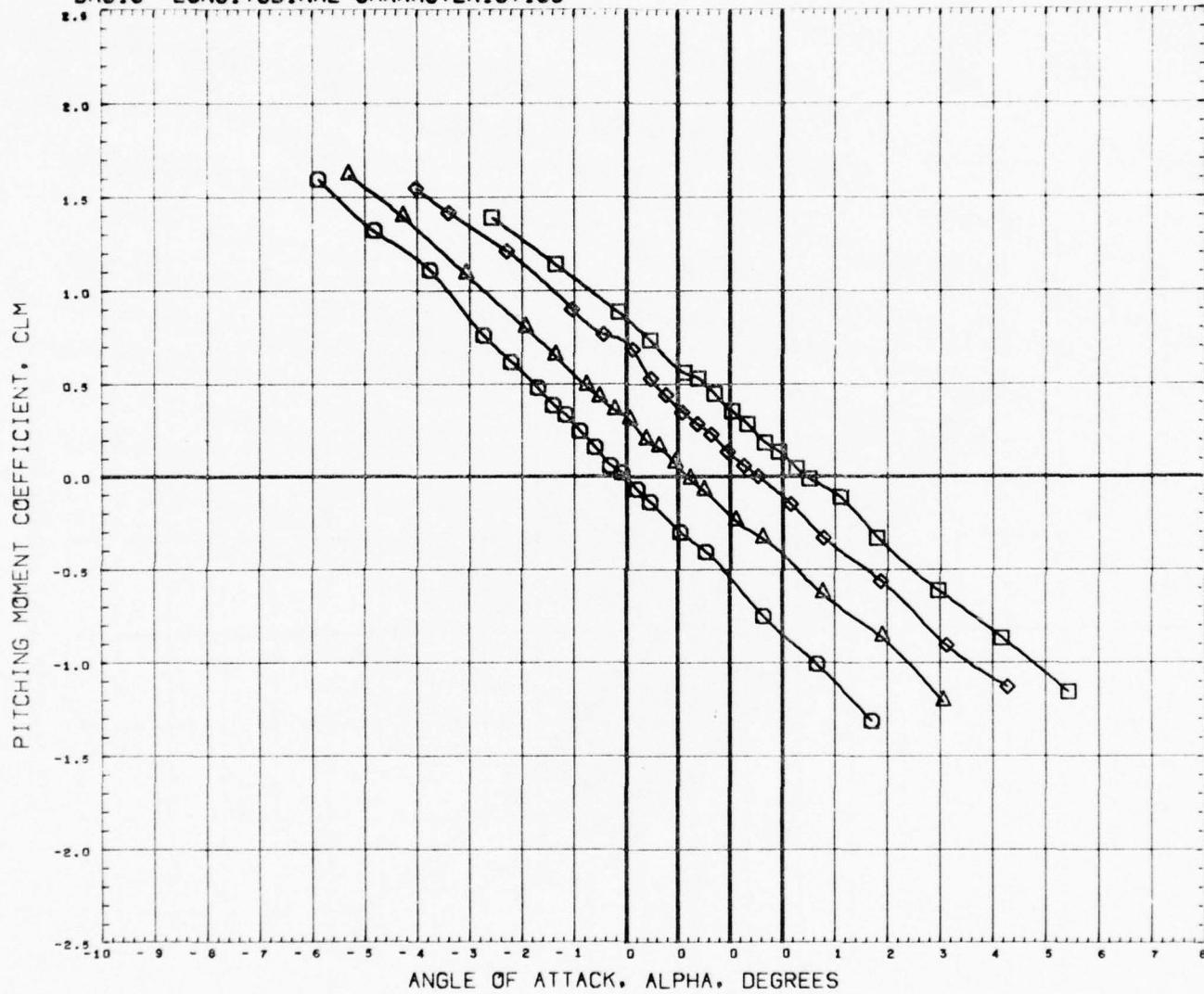
SYMBOL	MACH	PARAMETRIC VALUES		
○	1.045	PHI	0.000	M-LGTH 2.250
△	1.098	LS-LGH	2.500	S-WDTH 0.200
◇	1.197	R-WDTH	1.000	
□	1.296			

REFERENCE INFORMATION		
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LREF	3.0000	INCHES
BREF	3.0000	INCHES
XMRP	0.0000	INCHES
YMRP	0.0000	INCHES
ZMRP	0.0000	INCHES
SCALE	0.0000	NONE

REFERENCE FILE

AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL. N1R1 (RTAR01) 10 MAR 72 PAGE 50

### BASIC LONGITUDINAL CHARACTERISTICS

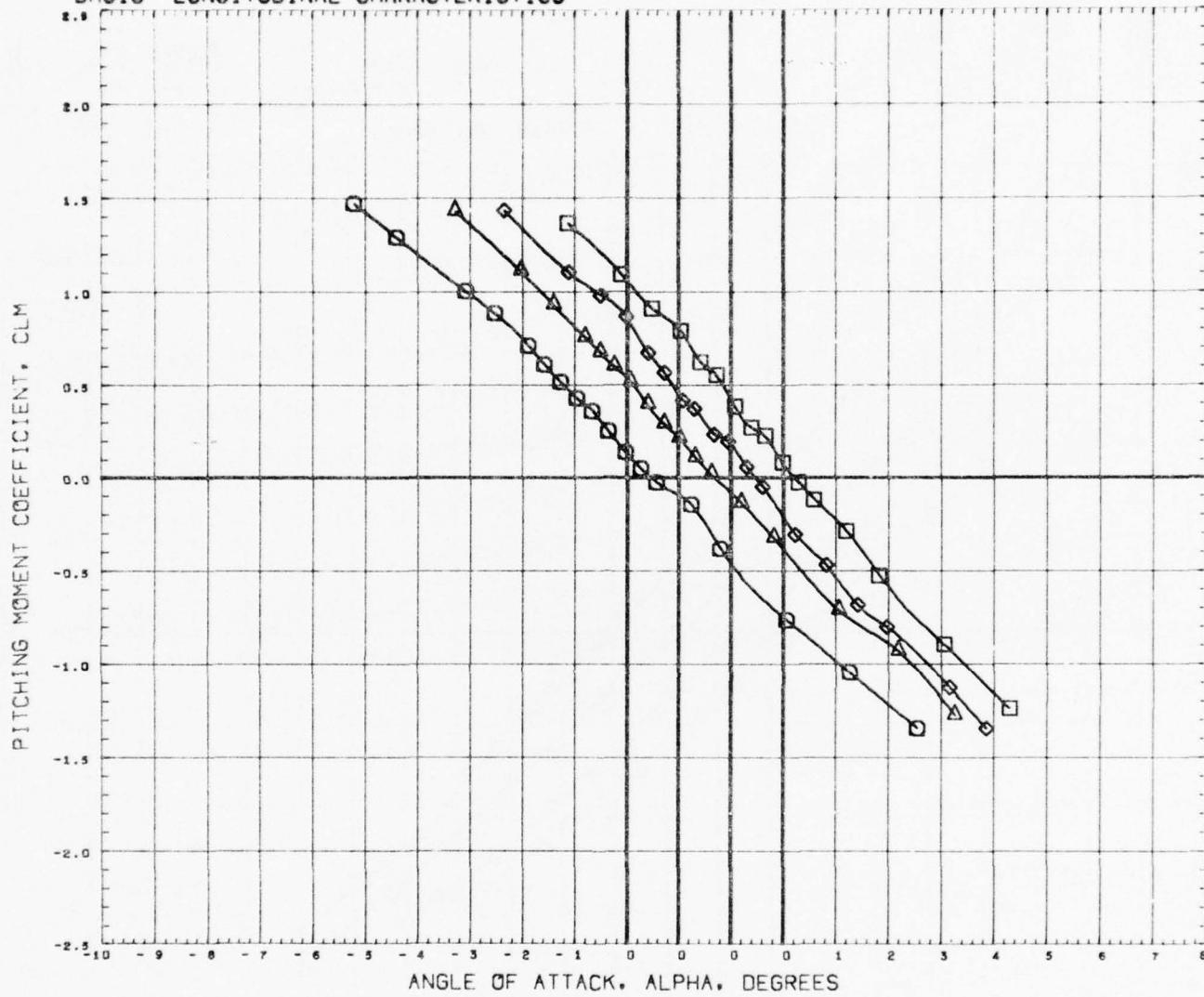


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ZHRF	0.0000	INCHES	
SCALE	0.0000	NONE	

REFERENCE FILE

AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL, N1R1 (RTAR01) 10 MAR 72 PAGE 51

### BASIC LONGITUDINAL CHARACTERISTICS



SYMBOL

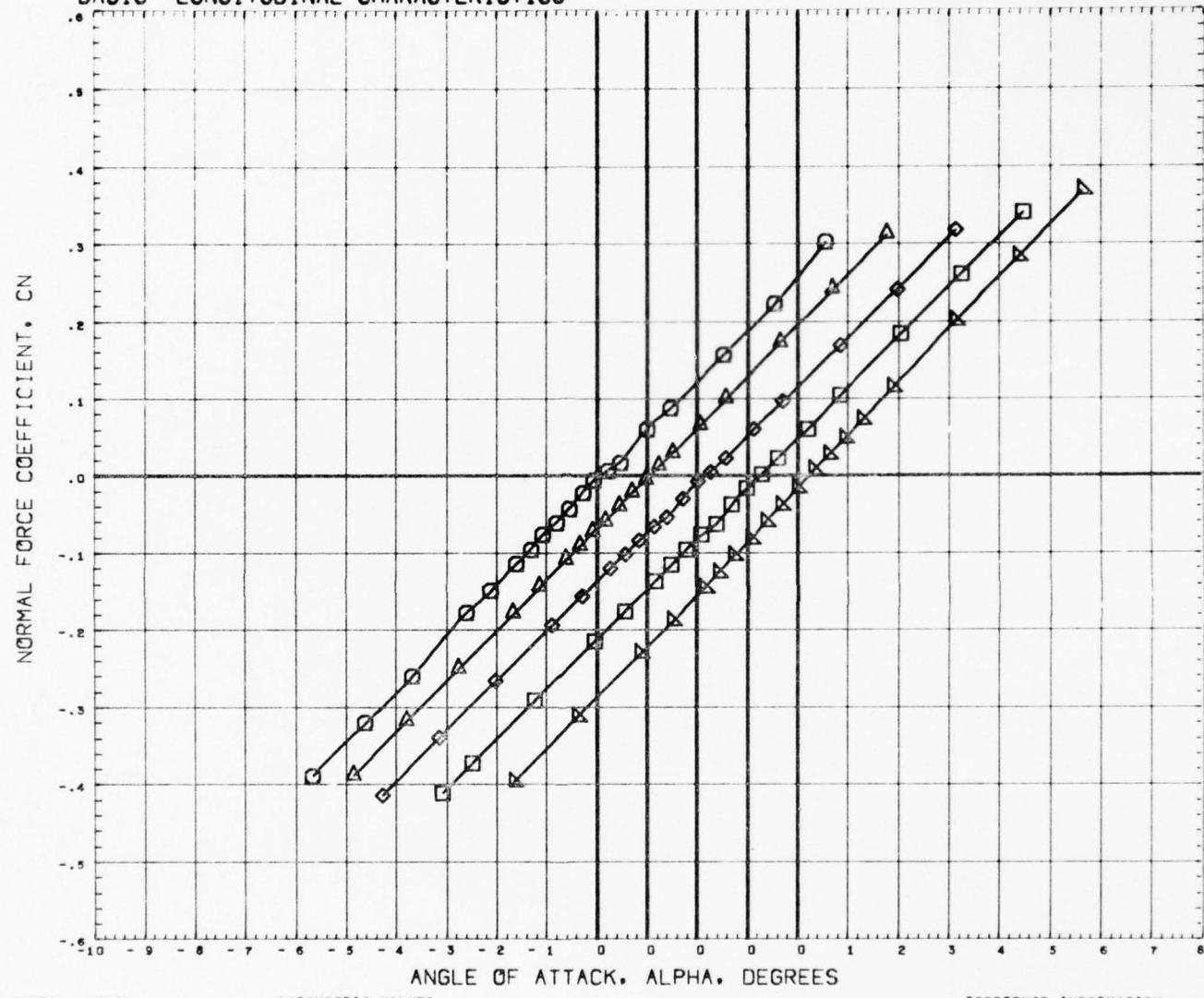
MACH  
1.045    PHI    0.000    H-LGTH    2.250  
1.098    LS-LGH    2.500    S-WDTH    0.200  
1.197    R-WDTH    1.000  
1.296

REFERENCE FILE

REFERENCE INFORMATION

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### BASIC LONGITUDINAL CHARACTERISTICS

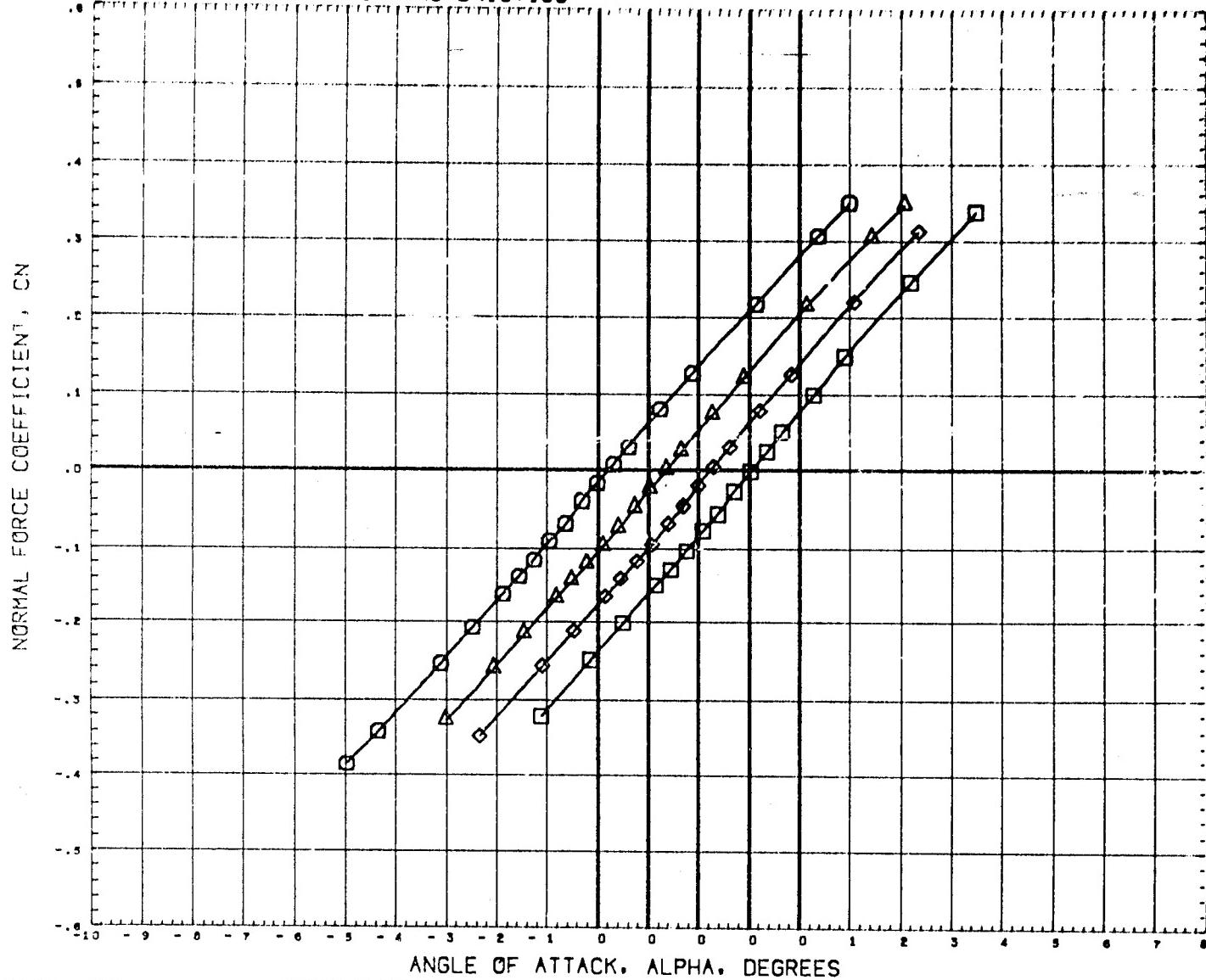


SYMBOL	MACH	PARAMETRIC VALUES
$\square$	0.299	FHI 0.000 M-LGTH 1.500
$\triangle$	0.500	L5-LGH 3.250 S-WDTH 0.200
$\diamond$	0.801	R-WDTH 1.000
$\times$	0.949	
	1.002	

DATA MIST. CODE \*6

REFERENCE INFORMATION		
SREF	7.0686	SQ. IN.
LREF	3.0000	INCHES
BREF	3.0000	INCHES
XMRP	0.0000	INCHES
YMRP	0.0000	INCHES
ZMRP	0.0000	INCHES
SCALE	0.0000	NONE

# BASIC LONGITUDINAL CHARACTERISTICS



SYMBOL  
 ◇  
 ◊  
 □

MACH  
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 1.098  
 1.199  
 1.300

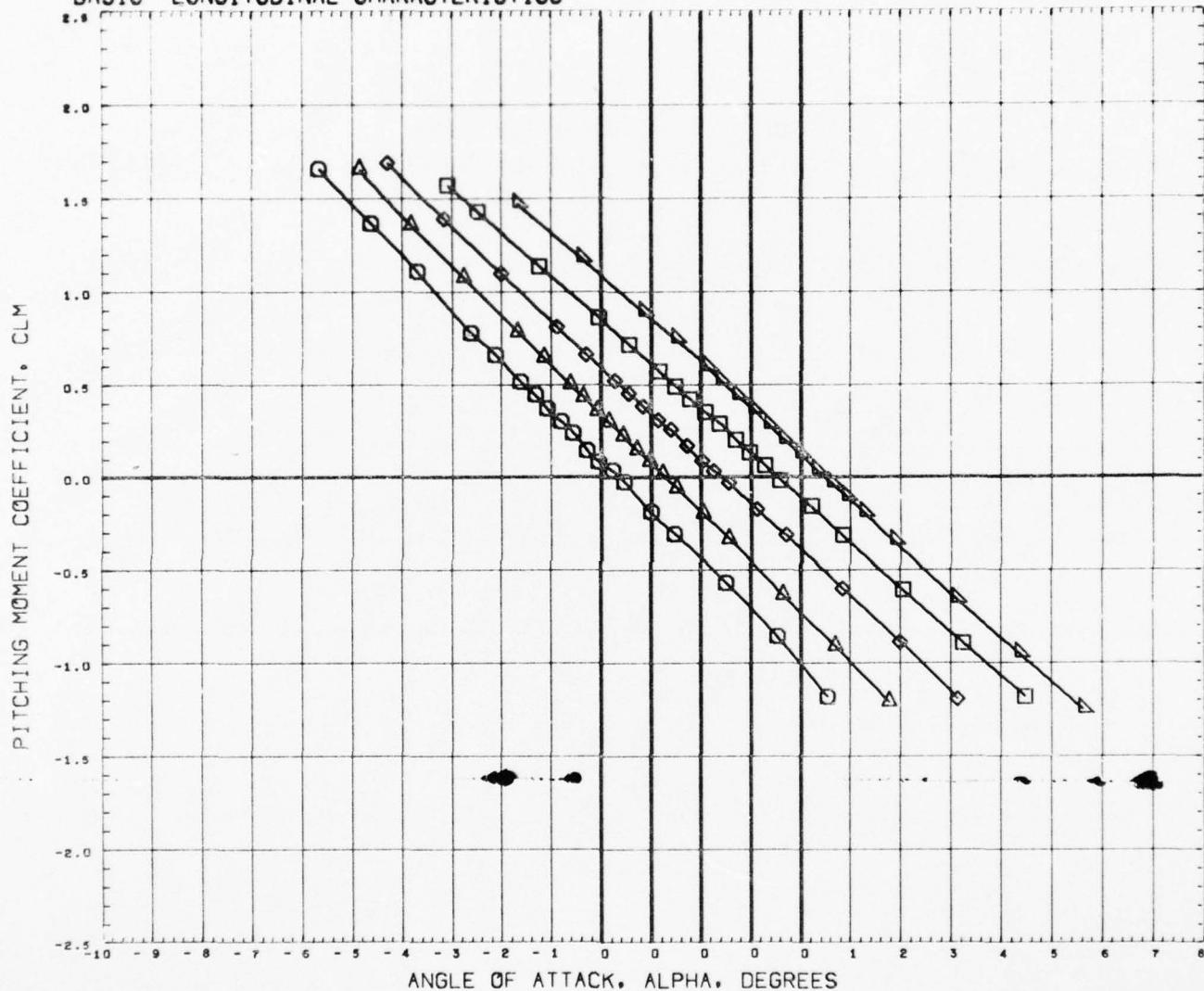
PARAMETRIC VALUES  
 PHI 0.000 M-LGTH 1.500  
 LS-LGH 3.250 S-WDTH 0.200  
 R-WDTH .1.000

DATA HIST. CODE EG

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 BREF 3.0000 INCHES  
 XMRP 0.0000 INCHES  
 YMRP 0.0000 INCHES  
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AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL, N1R2 (CTAR02) 14 MAR 72 PAGE 54

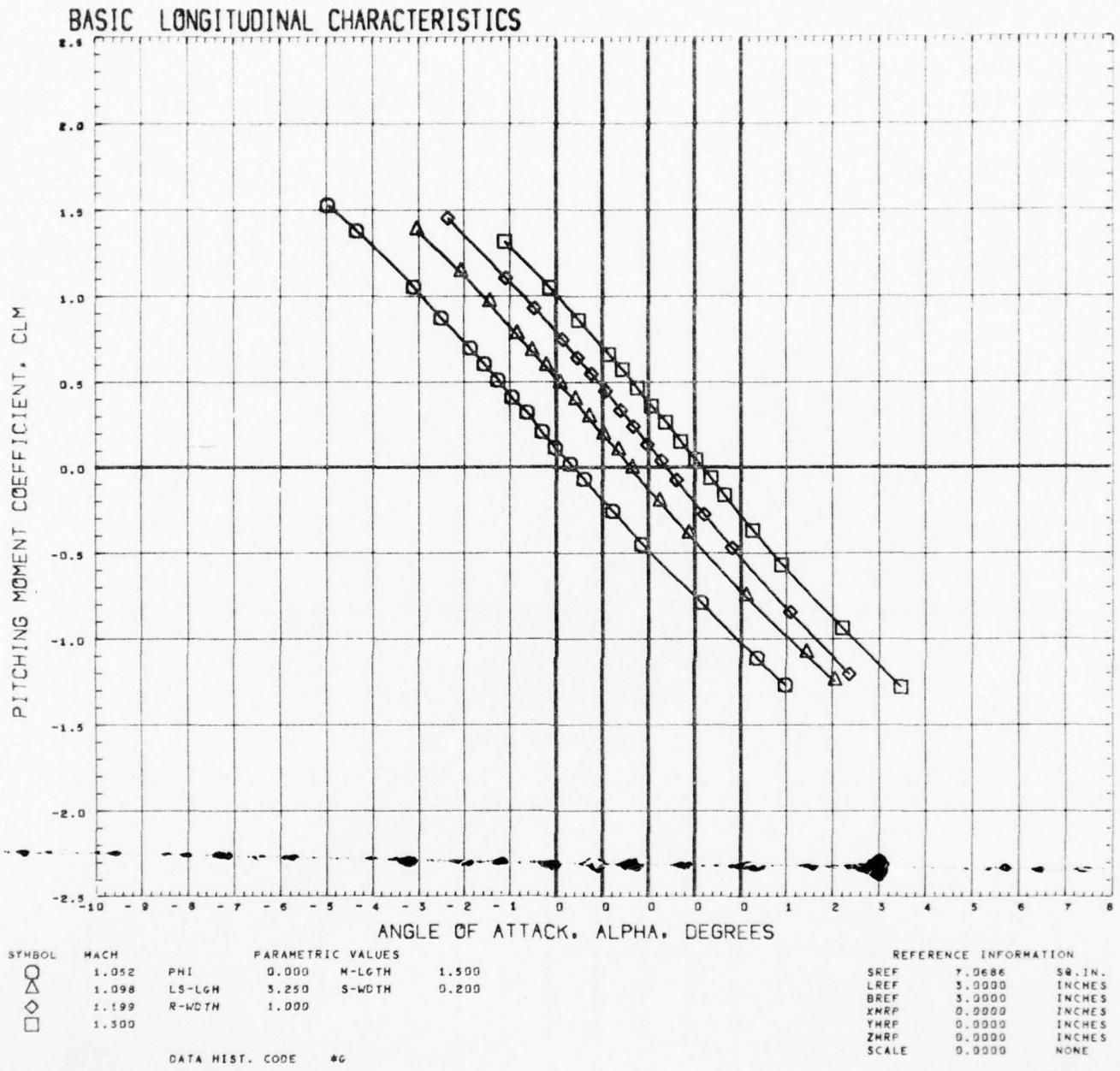
## BASIC LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES		
○	0.299	PHI	0.000	M-LGTH 1.500
△	0.500	LS-LGH	3.250	S-WDTH 0.200
◊	0.601	R-WDTH	1.000	
□	0.649			
	1.002			

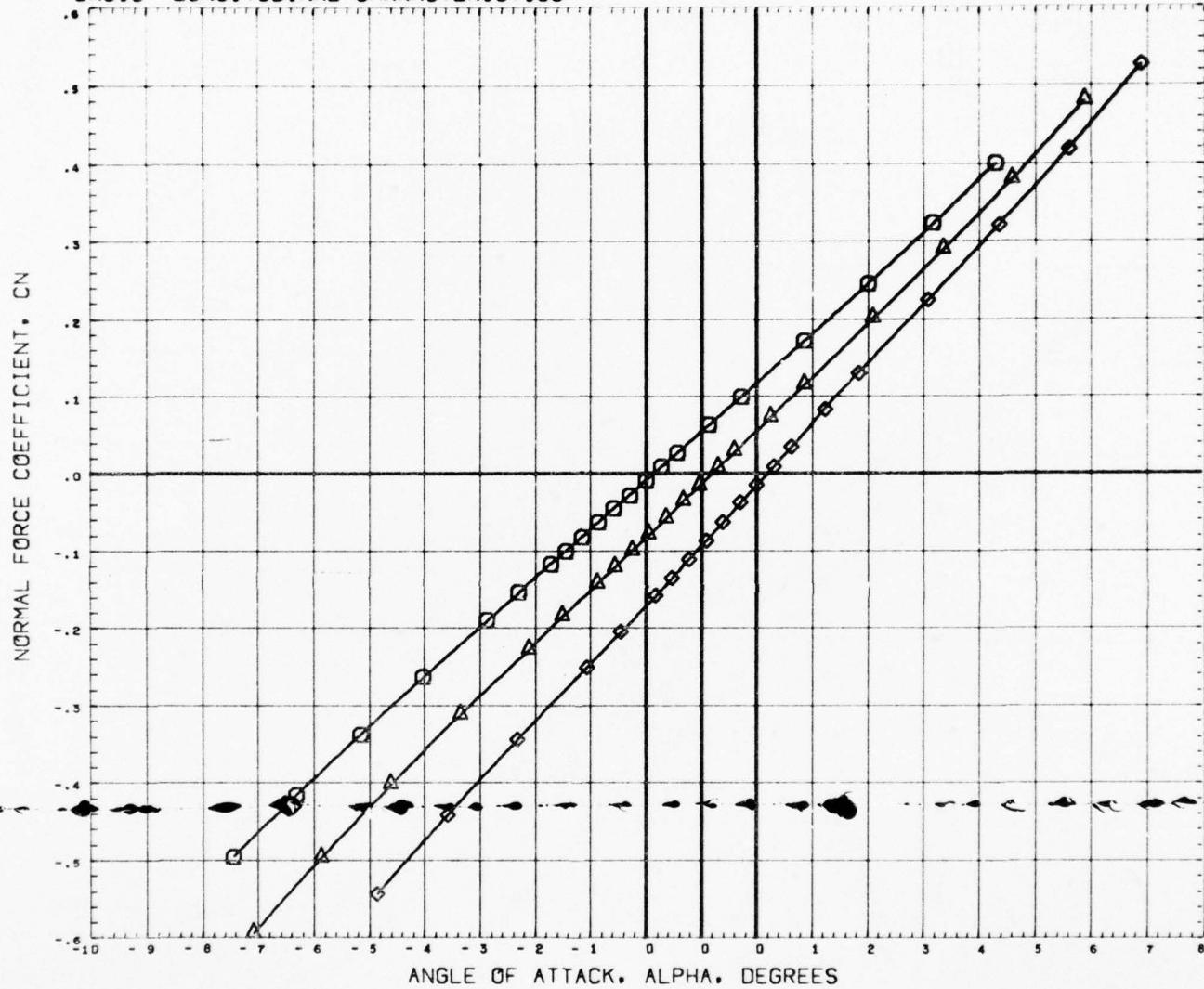
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ZMRP	0.0000	INCHES
SCALE	0.0000	NONE



AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL, N1R2 (CTAR02) 14 MAR 72 PAGE 56

## BASIC LONGITUDINAL CHARACTERISTICS



SYMBOL

MACH

PARAMETRIC VALUES

$\circ$	0.800	PHI	22.500	M-LGTH	1.500
$\triangle$	1.001	LS-LGH	3.250	S-WDTH	0.200
$\diamond$	1.197	R-WDTH	1.000		

REFERENCE FILE

AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL, N1R2 (RTAR03) 10 MAR 72

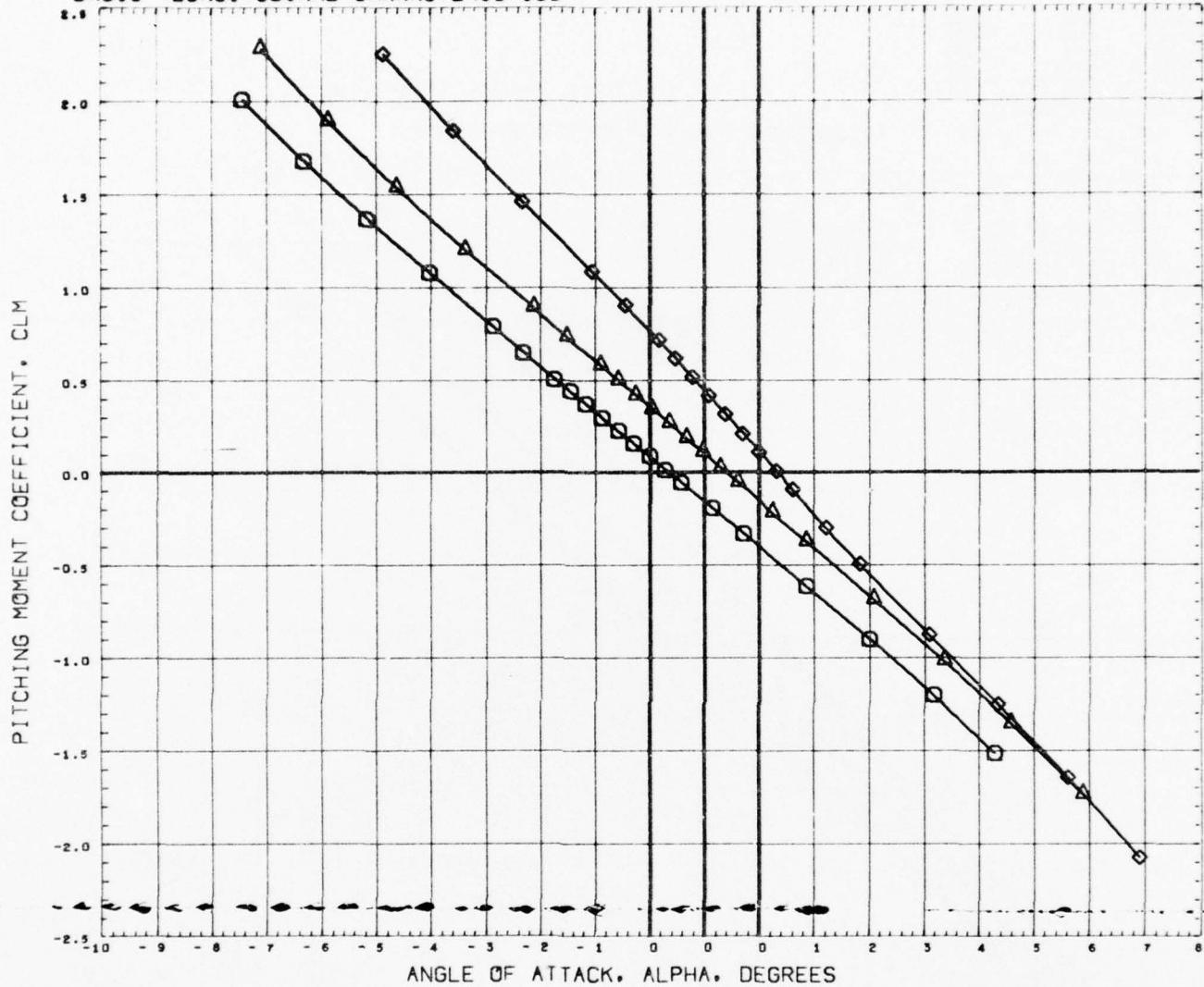
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BREF	3.0000	INCHES
XMRP	0.0000	INCHES
YMRP	0.0000	INCHES
ZMRP	0.0000	INCHES
SCALE	0.0000	NONE

PAGE

57

## BASIC LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES
○	0.800	PHI 22.500 M-LGTH 1.500
△	1.001	LS-LGH 3.250 S-WDTH 0.200
◊	1.197	R-WDTH 1.000

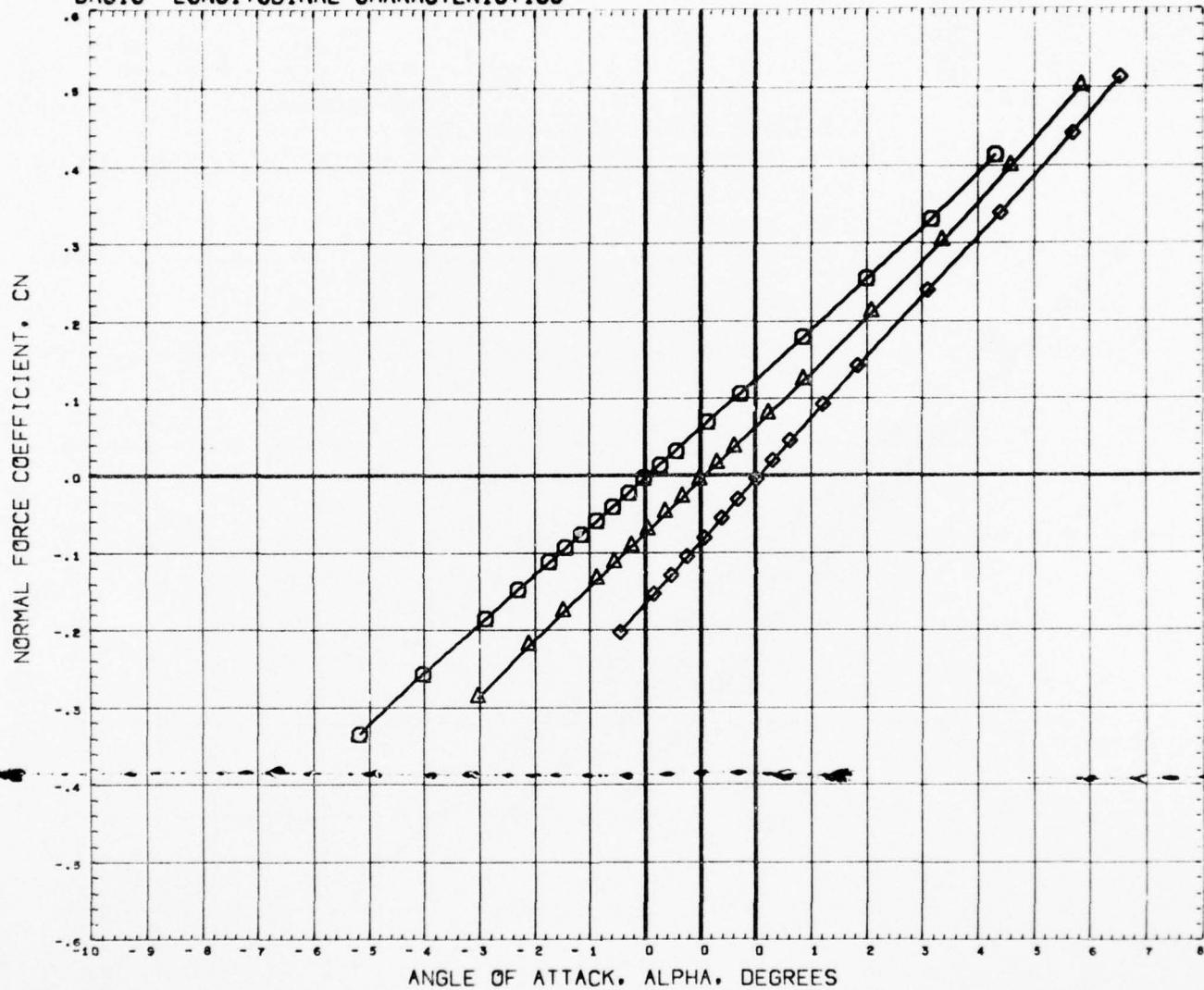
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REFERENCE INFORMATION

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RRP	0.0000	INCHES
RRP	0.0000	INCHES
CALE	0.0000	NONE

AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL, N1R2 (RTAR03) 10 MAR 72 PAGE 58

### BASIC LONGITUDINAL CHARACTERISTICS

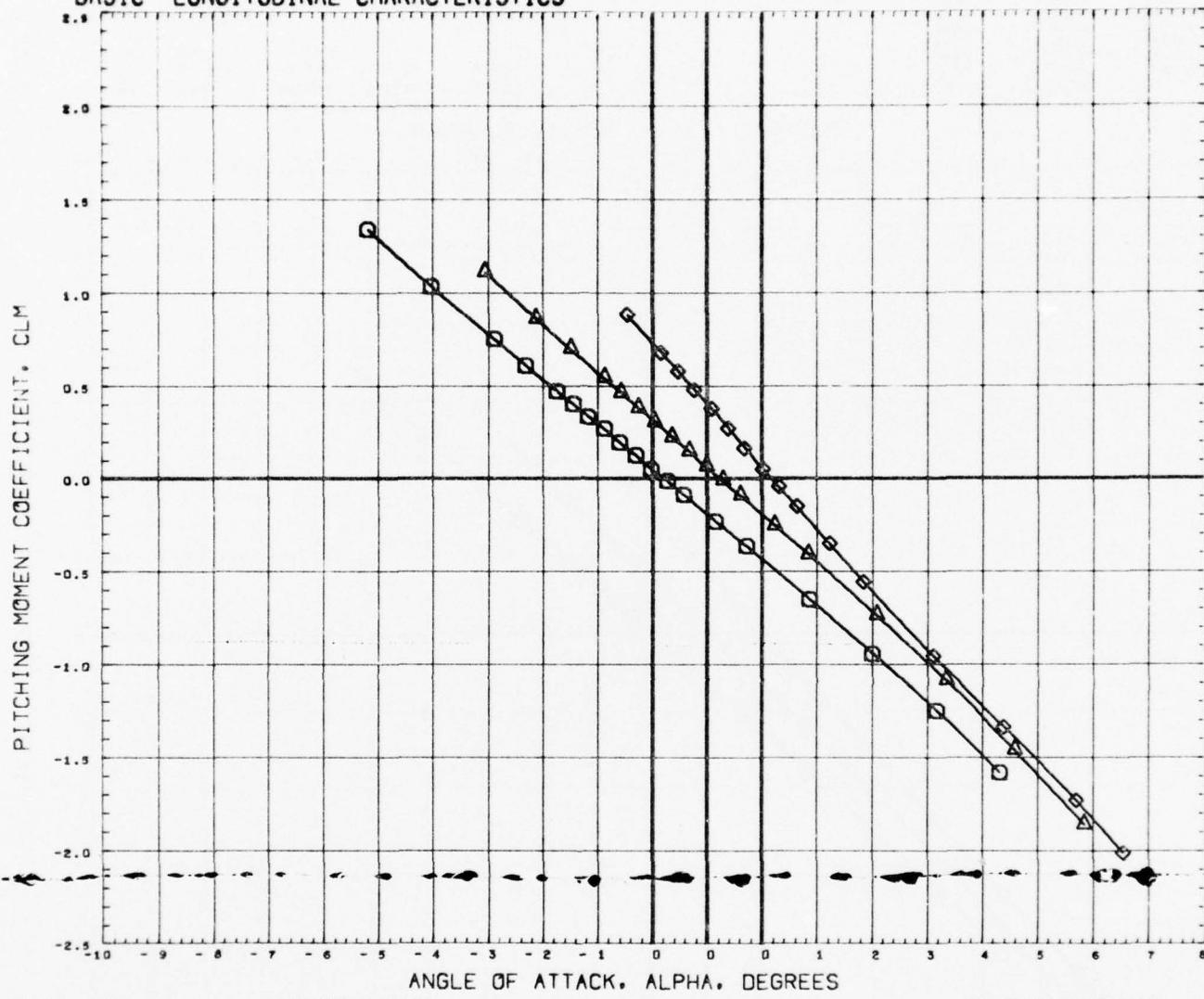


SYMBOL      MACH                            PARAMETRIC VALUES  
□      0.800      PHI      45.000      M-LGTH      1.500  
○      1.001      LS-LGH      3.250      S-WDTH      0.200  
◊      1.198      R-WDTH      1.000

REFERENCE INFORMATION  
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 BREF      3.0000      INCHES  
 XMRF      0.0000      INCHES  
 YMRF      0.0000      INCHES  
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REFERENCE FILE

### BASIC LONGITUDINAL CHARACTERISTICS



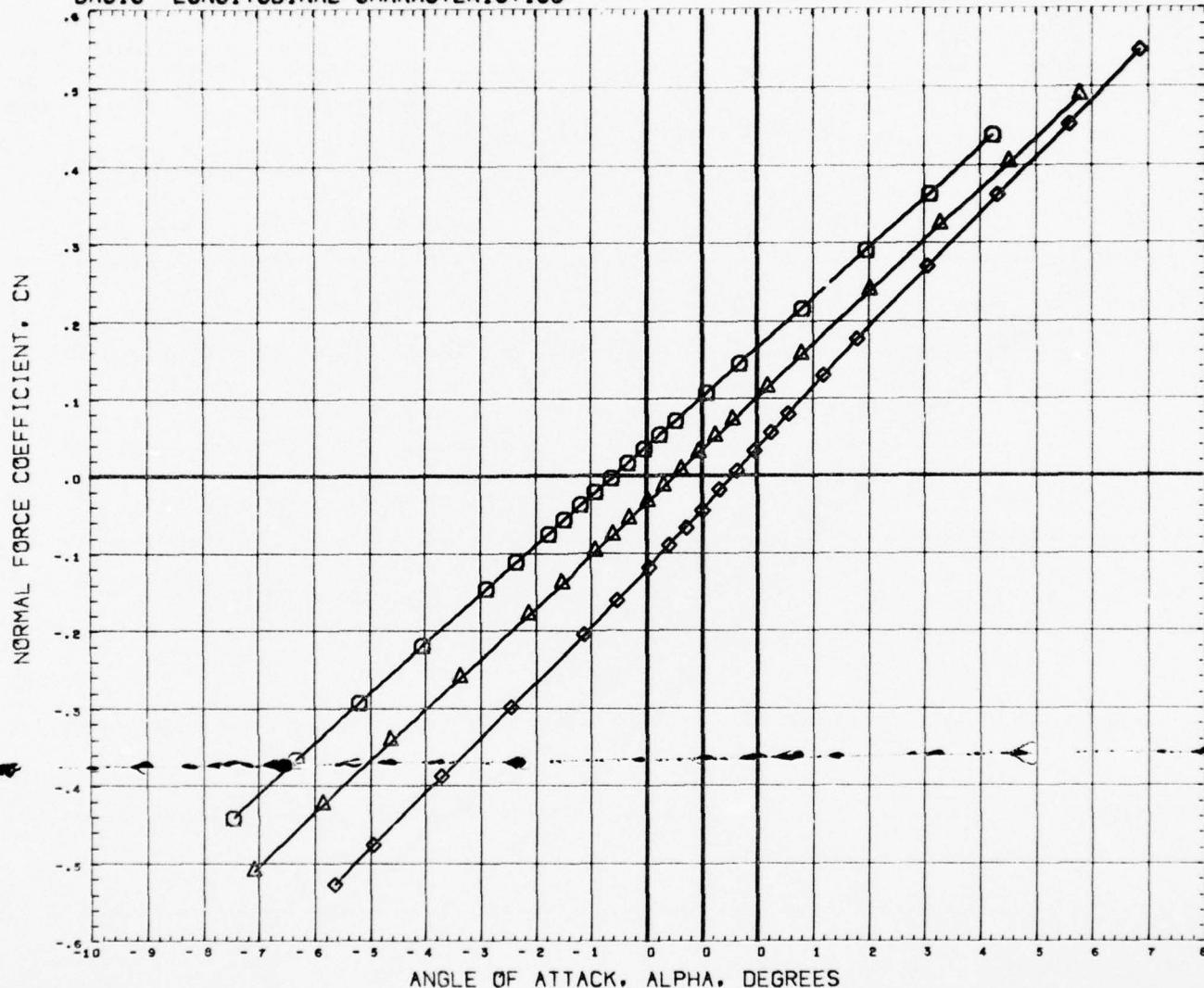
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 1.001      LS-LGM      3.250      S-WDTH      0.200  
 ◊      1.198      R-WDTH      1.000

REFERENCE INFORMATION  
 SREF      7.0686      SQ. IN.  
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 XMRF      0.0000      INCHES  
 YMRF      0.0000      INCHES  
 ZMRF      0.0000      INCHES  
 SCALE      0.0000      NONE

REFERENCE FILE

AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL, N1R2 (RTAR04) 10 MAR 72 PAGE 60

### BASIC LONGITUDINAL CHARACTERISTICS

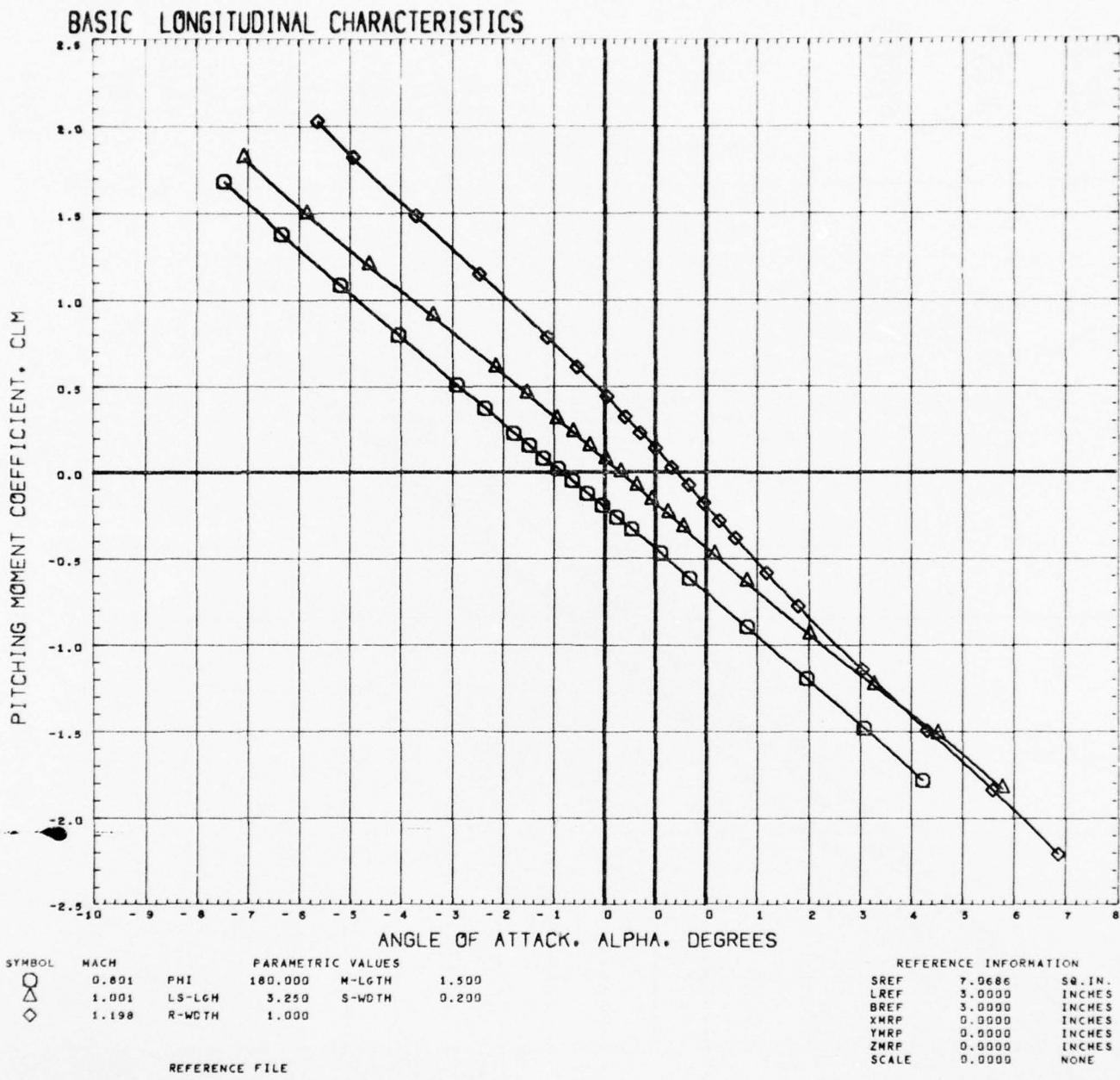


SYMBOL      MACH      PHI      PARAMETRIC VALUES  
 ◊      0.801      180.000      M-LGTH      1.500  
 △      1.001      LS-LGH      3.250      S-WDTH      0.200  
 ◇      1.198      R-WDTH      1.000

REFERENCE INFORMATION  
 SREF      7.0686      SQ. IN.  
 LREF      3.0000      INCHES  
 BREF      3.0000      INCHES  
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 YMRF      0.0000      INCHES  
 ZMRF      0.0000      INCHES  
 SCALE      0.0000      NONE

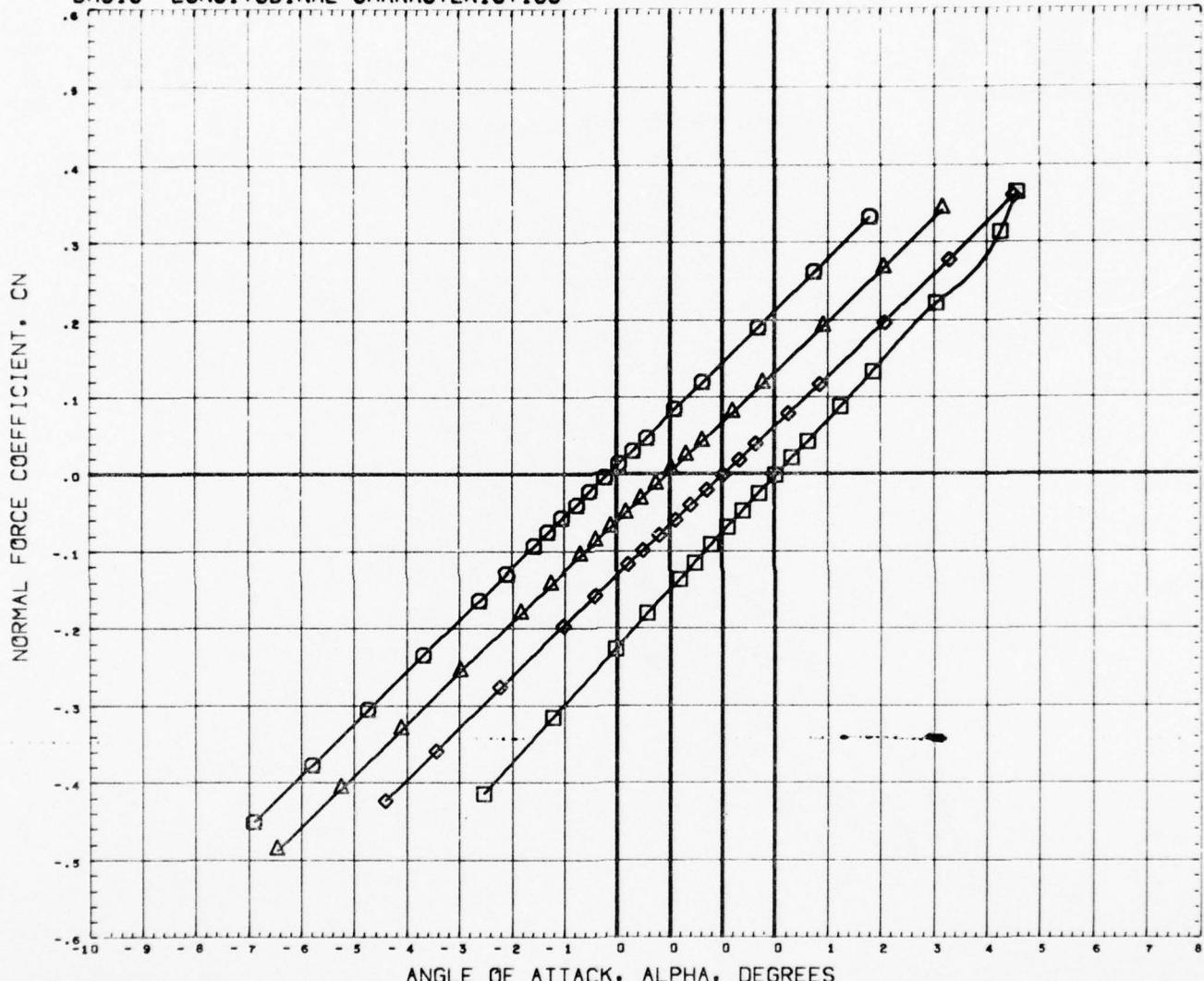
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AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL. N1R2 (RTAR05) 10 MAR 72 PAGE 61



AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL, N1R2 (RTAR05) 10 MAR 72 PAGE 62

### BASIC LONGITUDINAL CHARACTERISTICS



SYMBOL

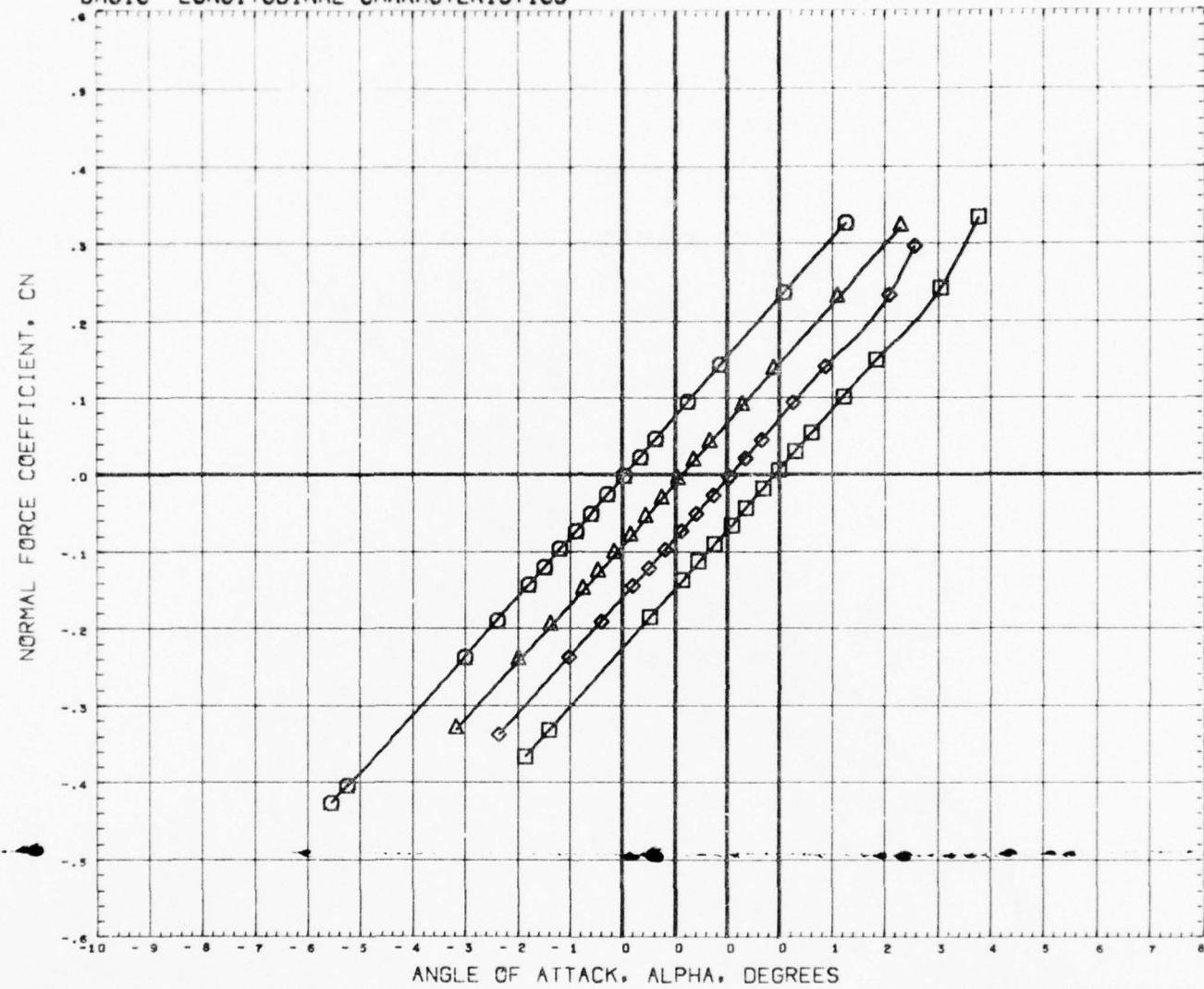
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1.001

PARAMETRIC VALUES  
PHI  
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LS-LGH  
4.000  
R-WDTH  
1.000

REFERENCE FILE

REFERENCE INFORMATION  
SREF 7.0686 SQ. IN.  
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### BASIC LONGITUDINAL CHARACTERISTICS



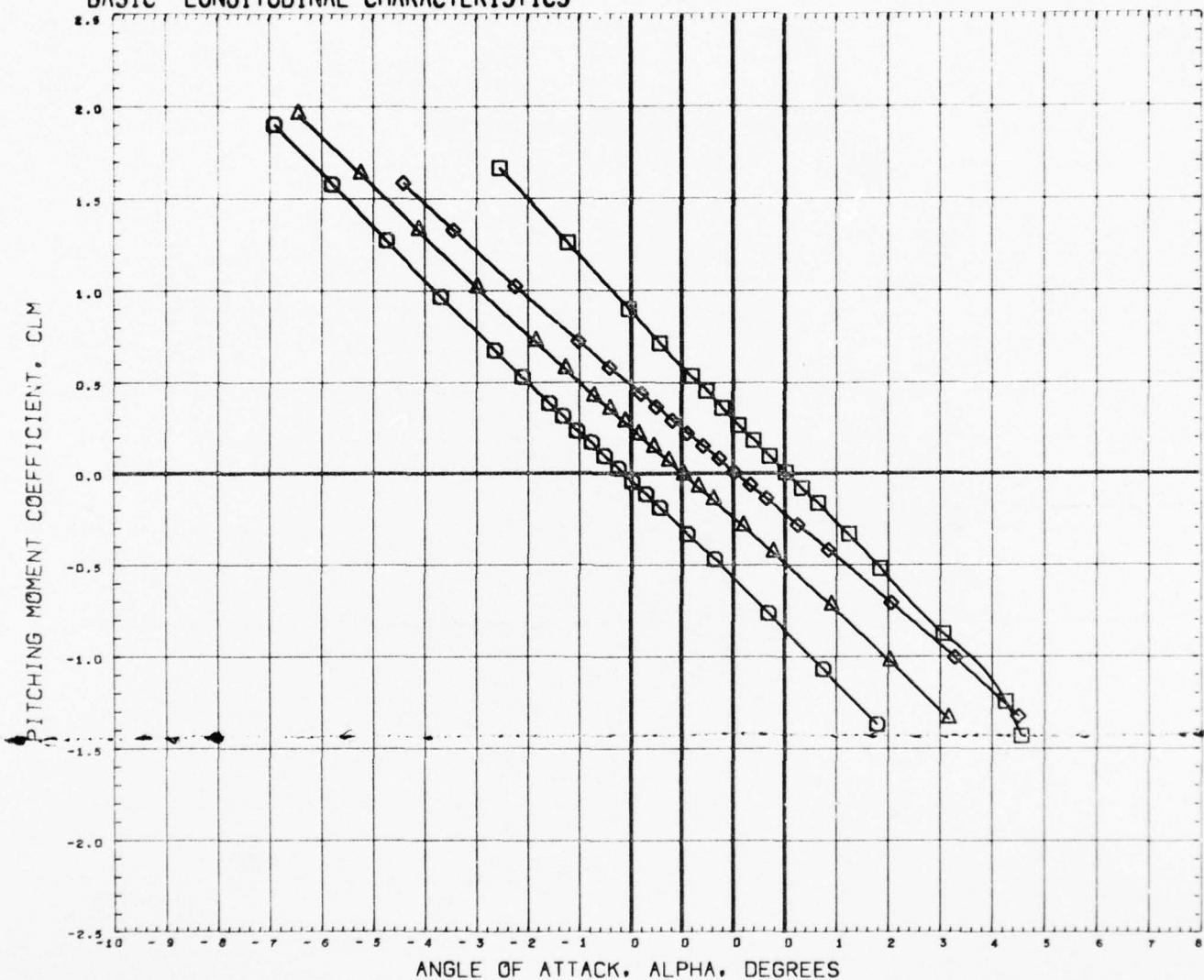
SYMBOL	MACH	PARAMETRIC VALUES		
○	1.049	PHI	0.000	M-LGTH 0.750
△	1.100	LS-LGH	4.000	S-WDTH 0.200
◊	1.197	R-WDTH	1.000	
□	1.297			

REFERENCE INFORMATION		
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BREF	3.0000	INCHES
XMRP	0.0000	INCHES
YMRP	0.0000	INCHES
ZMRP	0.0000	INCHES
SCALE	0.0000	NONE

REFERENCE FILE

AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL. N1R3 (RTAR06) 10 MAR 72 PAGE 64

### BASIC LONGITUDINAL CHARACTERISTICS



SYMBOL      MACH      PARAMETRIC VALUES

○	0.499	PHI      0.000	M-LGTH      0.750
△	0.800	LS-LGH      4.000	S-WDTH      0.200
◇	0.952	R-WDTH      1.000	
□	1.001		

REFERENCE INFORMATION

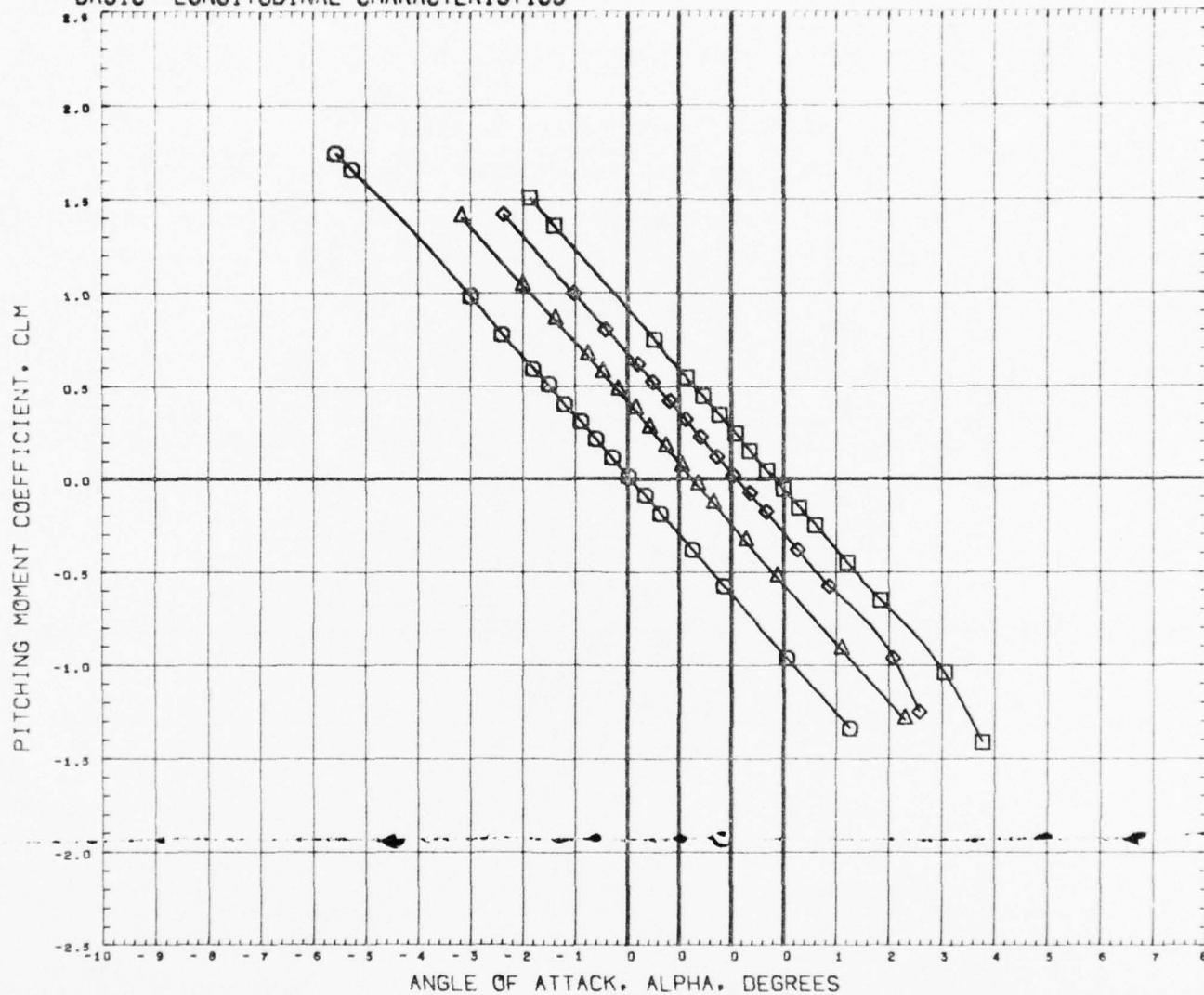
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YHRF	0.0000	INCHES
ZHRF	0.0000	INCHES
SCALE	0.0000	NONE

REFERENCE FILE

AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL. N1R3 (RTAR06) 10 MAR 72

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### BASIC LONGITUDINAL CHARACTERISTICS



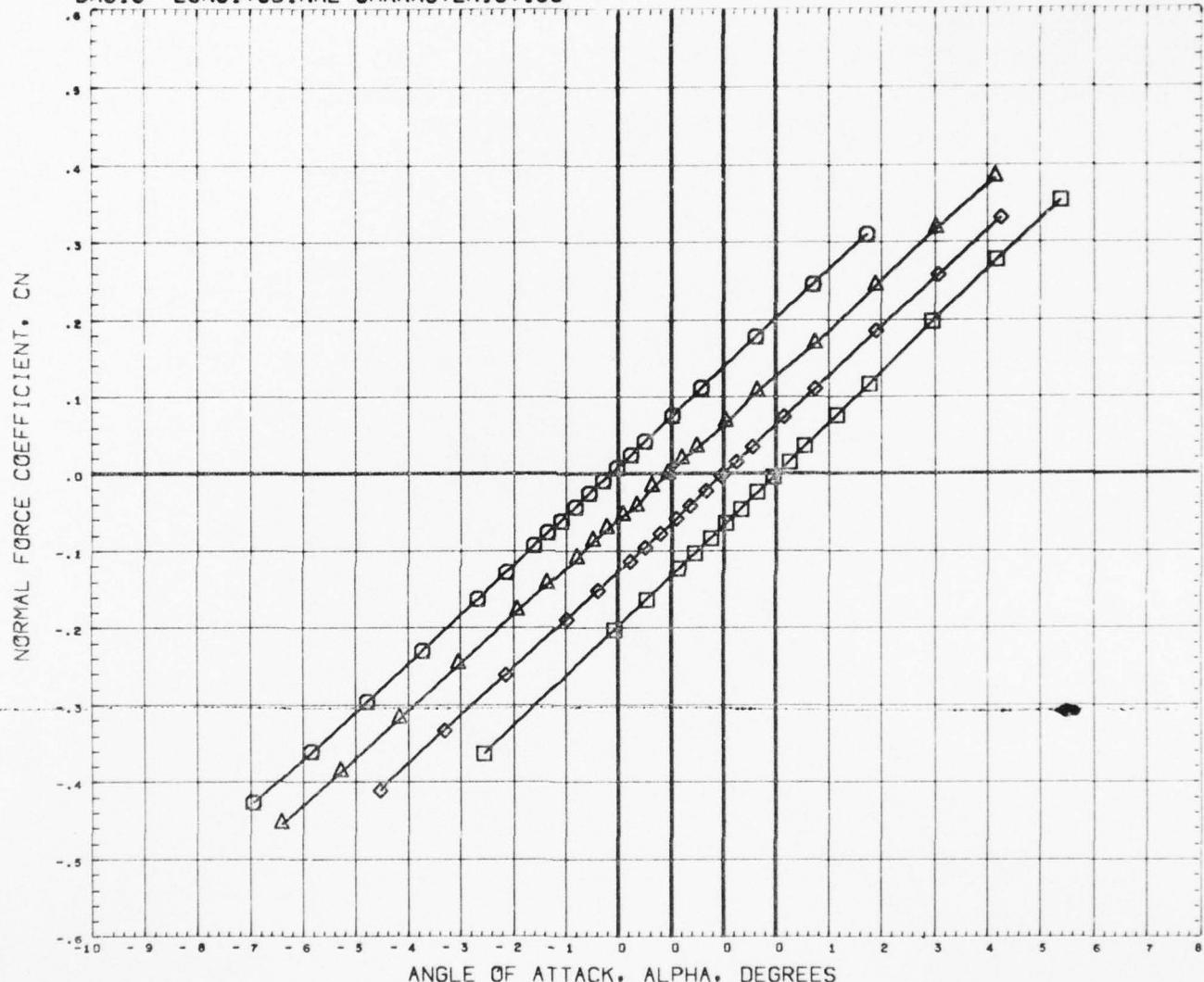
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ZHRC	0.0000	INCHES
SCALE	0.0000	NONE

AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL. N1R3 (RTAR06) 10 MAR 72

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### BASIC LONGITUDINAL CHARACTERISTICS



SYMBOL	HACH	PHI	PARAMETRIC VALUES
○	0.500	0.000	M-LGTH 2.250
△	0.799	LS-LGH 3.000	S-WDTH 0.200
◊	0.948	R-WDTH 1.000	
□	1.000		

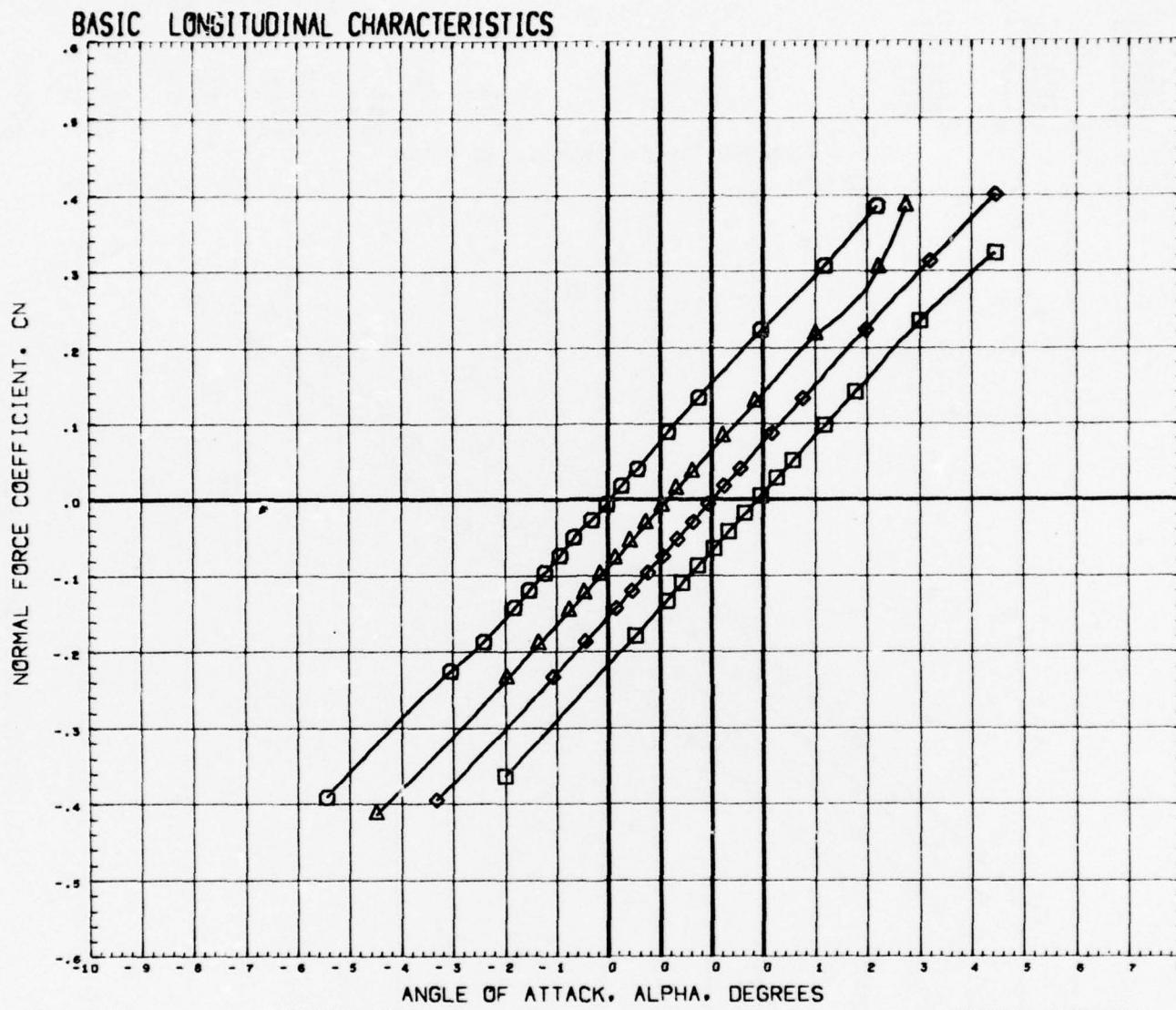
SYMBOL	HACH	PHI	PARAMETRIC VALUES
○	0.500	0.000	M-LGTH 2.250
△	0.799	LS-LGH 3.000	S-WDTH 0.200
◊	0.948	R-WDTH 1.000	
□	1.000		

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REFERENCE FILE

AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL, N1R4 (RTAR07) 10 MAR 72

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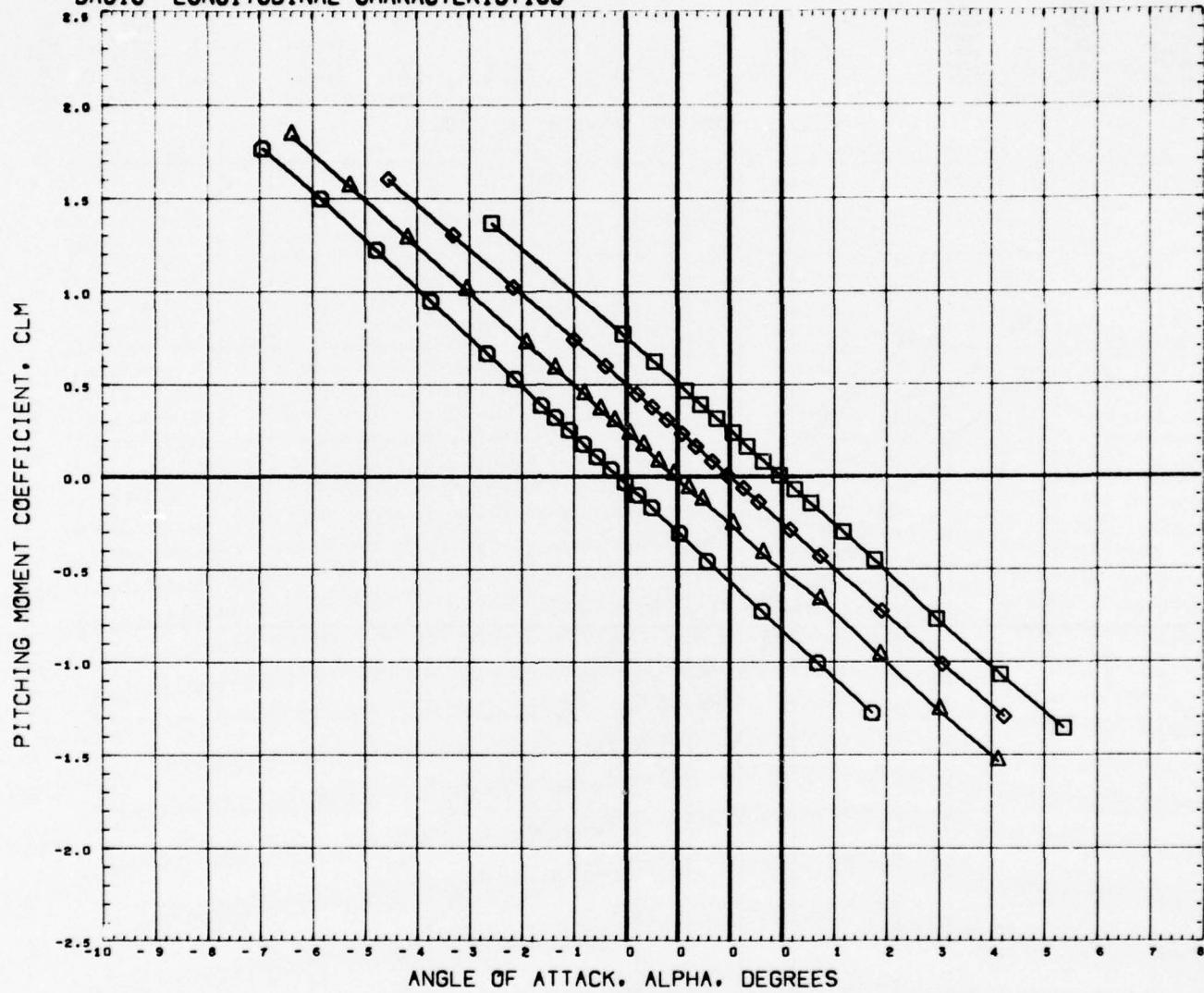


REFERENCE FILE

AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL, N1R4 (RTAR07) 10 MAR 72

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### BASIC LONGITUDINAL CHARACTERISTICS

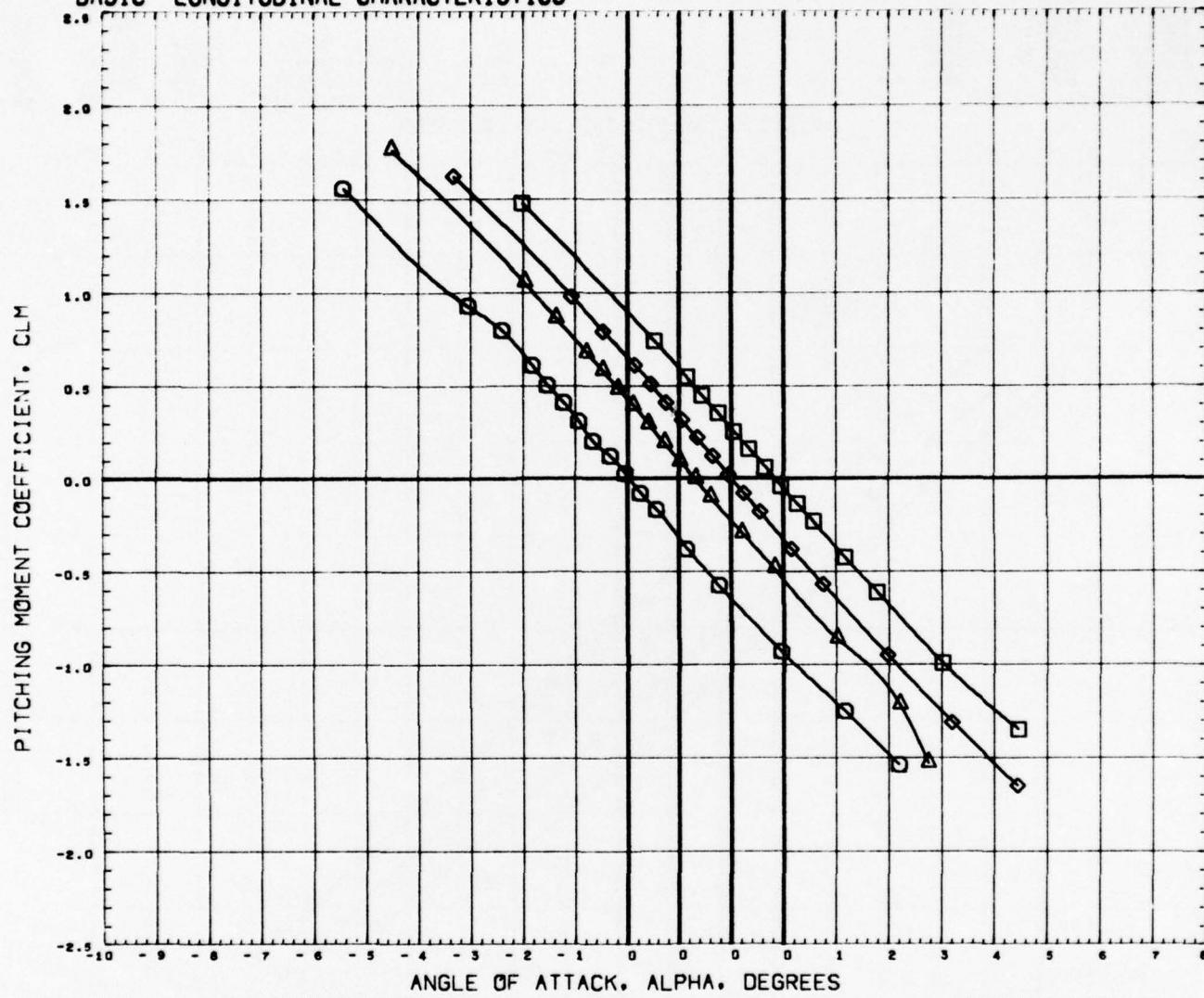


SYMBOL	MACH	PARAMETRIC VALUES
○	0.500	PHI 0.000 M-LGTH 2.250
△	0.799	LS-LGH 3.000 S-WDTH 0.200
◊	0.948	R-WDTH 1.000
□	1.000	

REFERENCE INFORMATION		
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REFERENCE FILE

### BASIC LONGITUDINAL CHARACTERISTICS

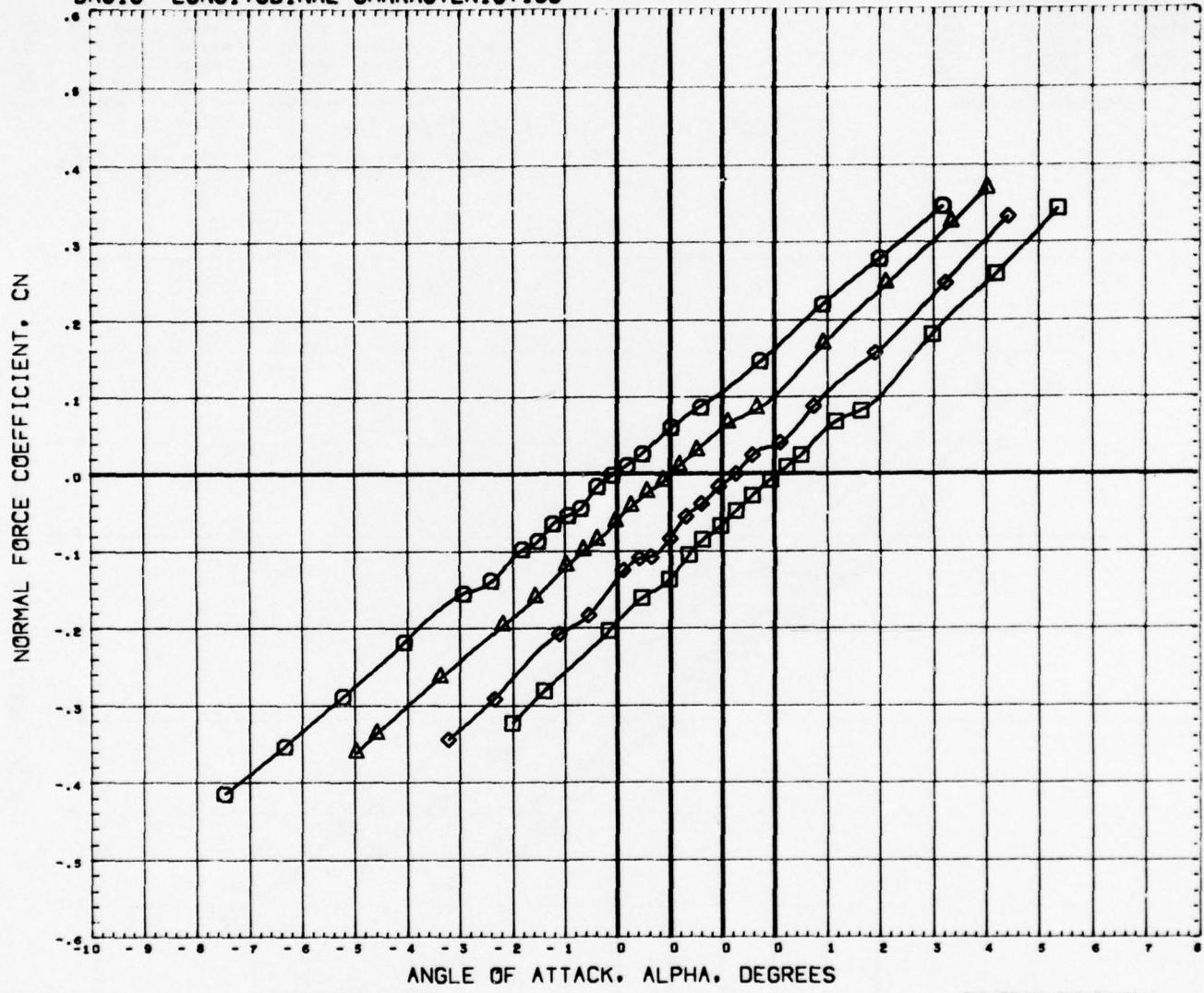


SYMBOL	MACH	PARAMETRIC VALUES		
○	1.048	PHI	0.000	M-LGTH 2.250
△	1.100	LS-LGH	3.000	S-WDTH 0.200
◊	1.197	R-WDTH	1.000	
□	1.298			

REFERENCE FILE

REFERENCE INFORMATION		
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XMRP	0.0000	INCHES
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ZMRP	0.0000	INCHES
SCALE	0.0000	NONE

### BASIC LONGITUDINAL CHARACTERISTICS



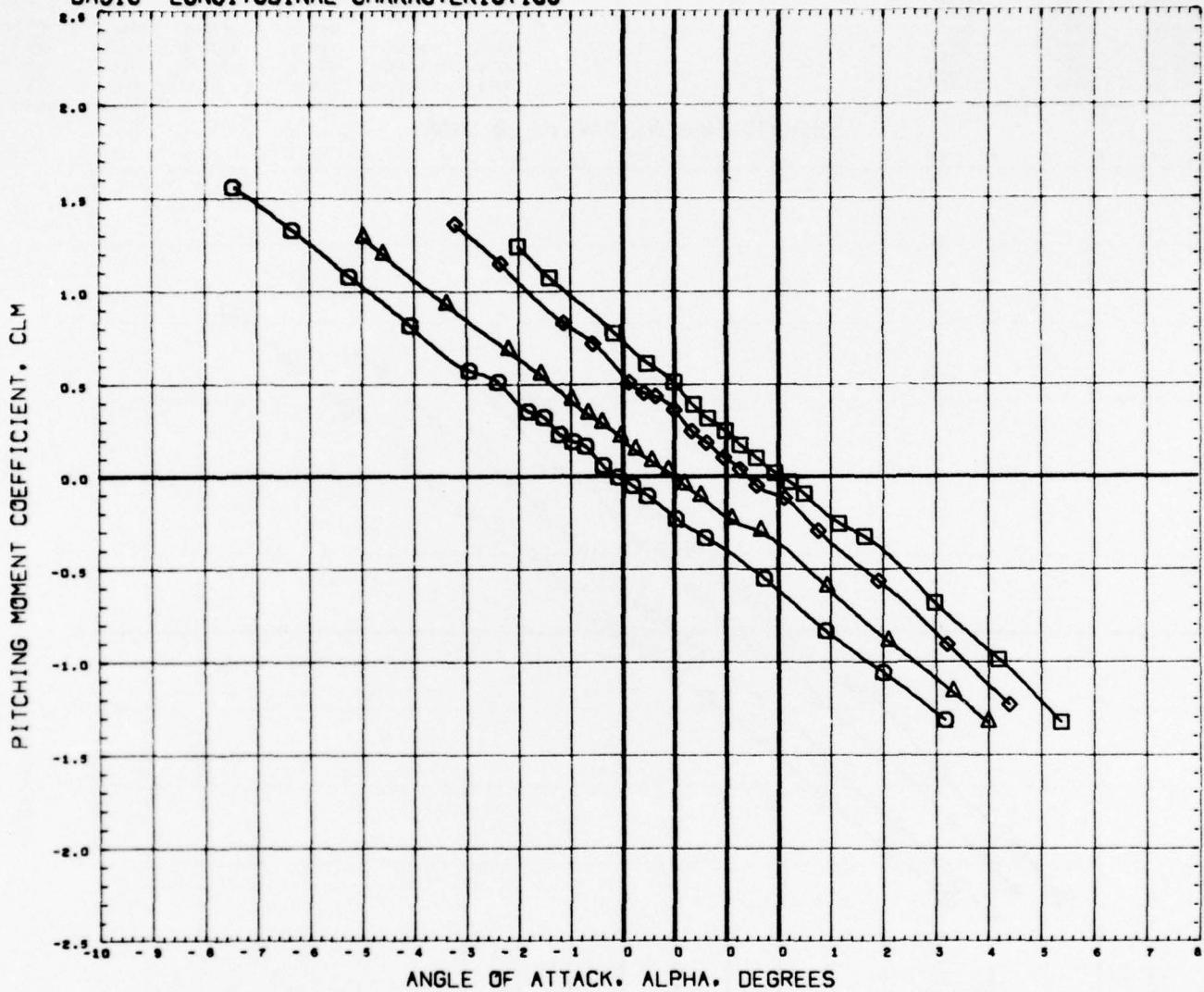
SYMBOL	MACH	PARAMETRIC VALUES
○	0.801	PHI 0.000 M-LGTH 2.250
△	1.002	L5-LGH 2.500 S-WDTH 0.200
◊	1.100	R-WDTH 1.000 C-LGTH 5.000
□	1.199	C-DIA 0.500

REFERENCE INFORMATION		
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YHPP	0.0000	INCHES
ZHPP	0.0000	INCHES
SCALE	0.0000	NONE

REFERENCE FILE

AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL.N1R1C2 (RTAR08) 10 MAR 72 PAGE 71

### BASIC LONGITUDINAL CHARACTERISTICS

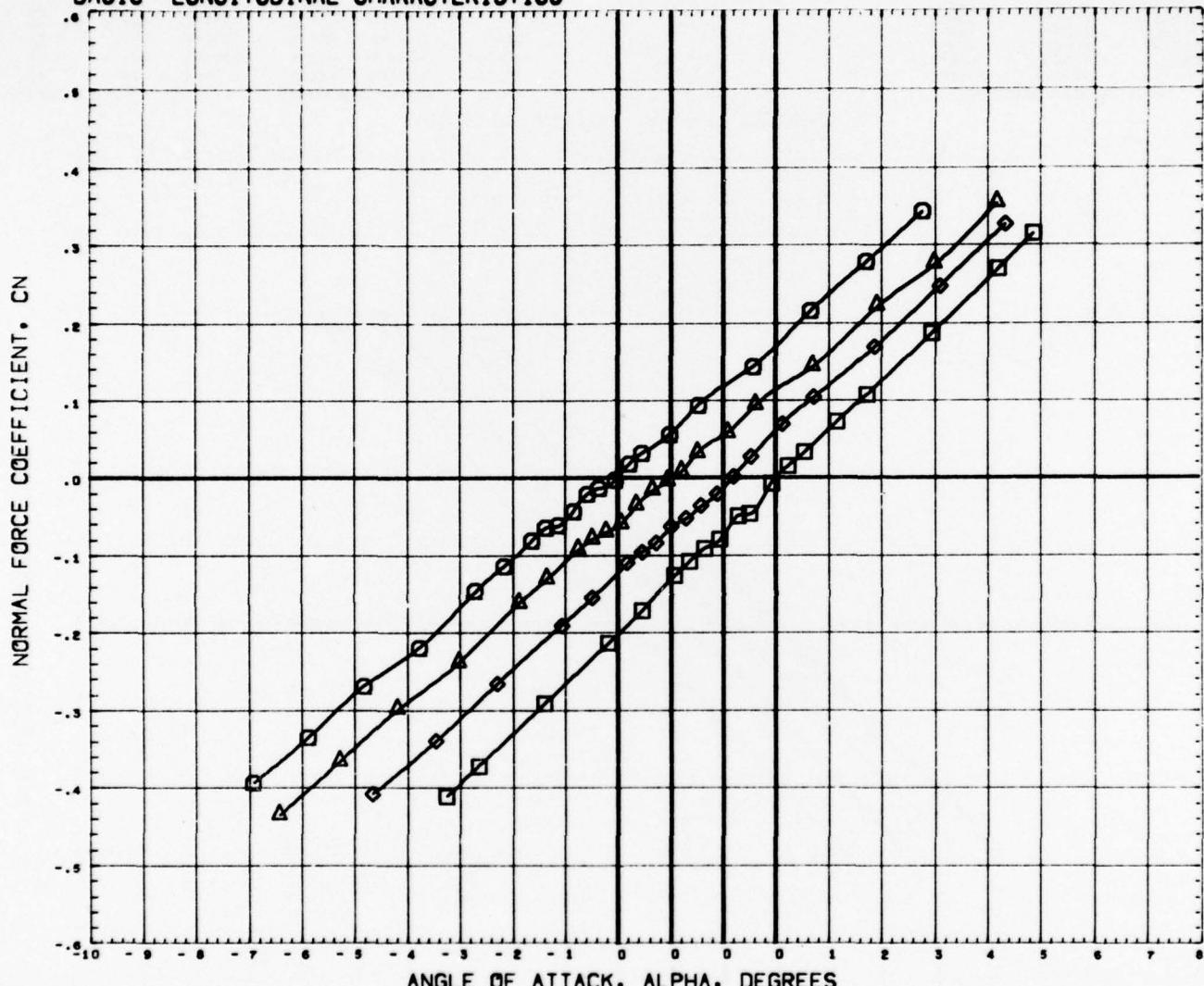


SYMBOL	MACH	PARAMETRIC VALUES		
○	0.801	PHI	0.000	M-LGTH 2.250
△	1.002	LS-LGTH	2.500	S-WDTH 0.200
◊	1.100	R-WDTH	1.000	C-LGTH 5.000
□	1.199	C-DIA	0.500	

REFERENCE FILE

REFERENCE INFORMATION		
SREF	7.0686	SE. IN.
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BREF	3.0000	INCHES
XMRP	0.0000	INCHES
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SCALE	0.0000	NONE

### BASIC LONGITUDINAL CHARACTERISTICS

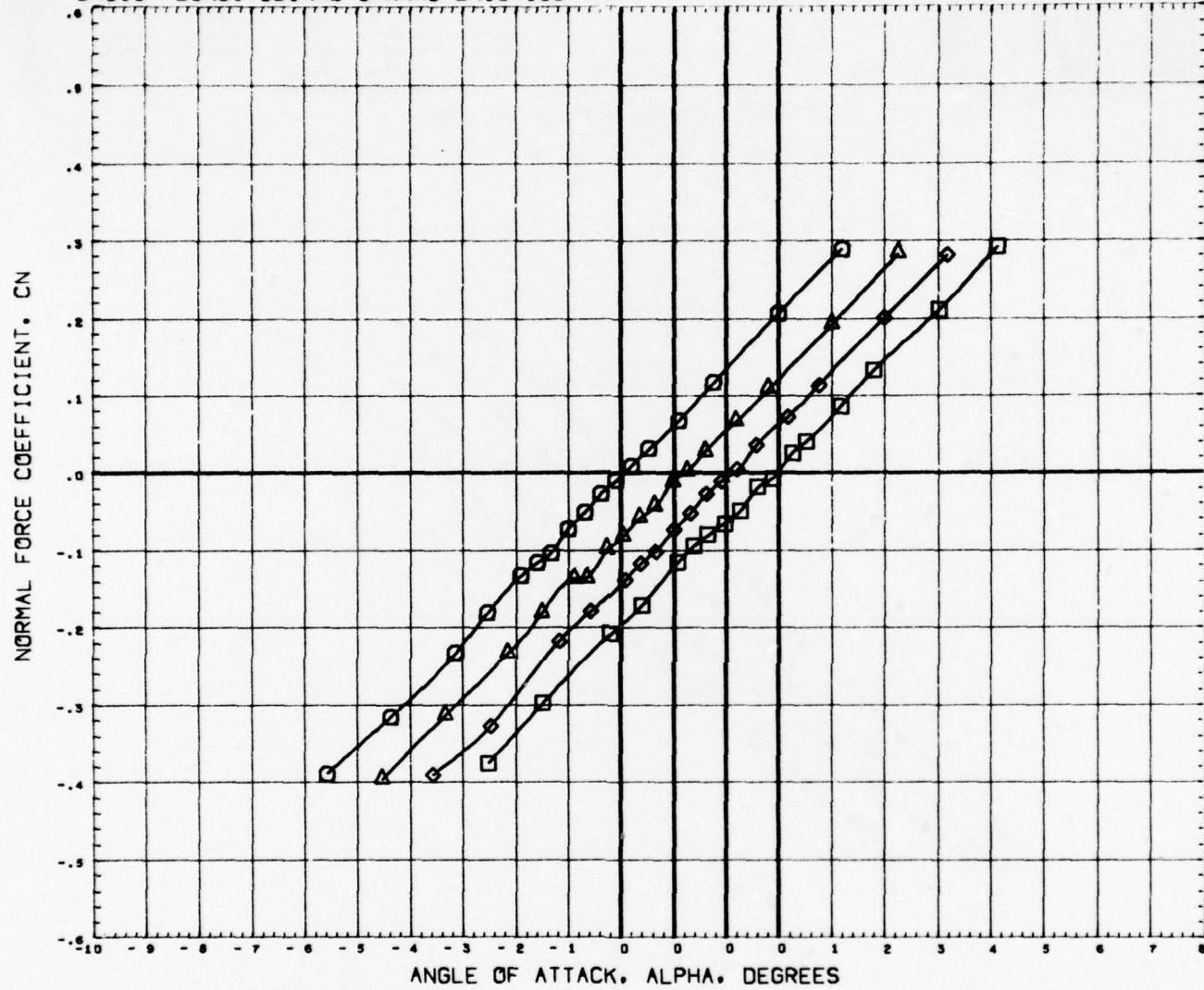


SYMBOL	MACH	PARAMETRIC VALUES
○	0.500	PHI 0.000 N-LGTH 1.500
◇	0.801	LS-LGH 3.250 S-WDTM 0.200
△	0.947	R-WDTM 1.000 C-LGTH 5.000
□	1.002	C-DIA 0.400

REFERENCE INFORMATION		
SREF	7.0686	IN. IN.
LREF	3.0000	INCHES
BREF	3.0000	INCHES
XMRP	0.0000	INCHES
YMRP	0.0000	INCHES
ZMRP	0.0000	INCHES
SCALE	0.0000	NONE

REFERENCE FILE

## BASIC LONGITUDINAL CHARACTERISTICS

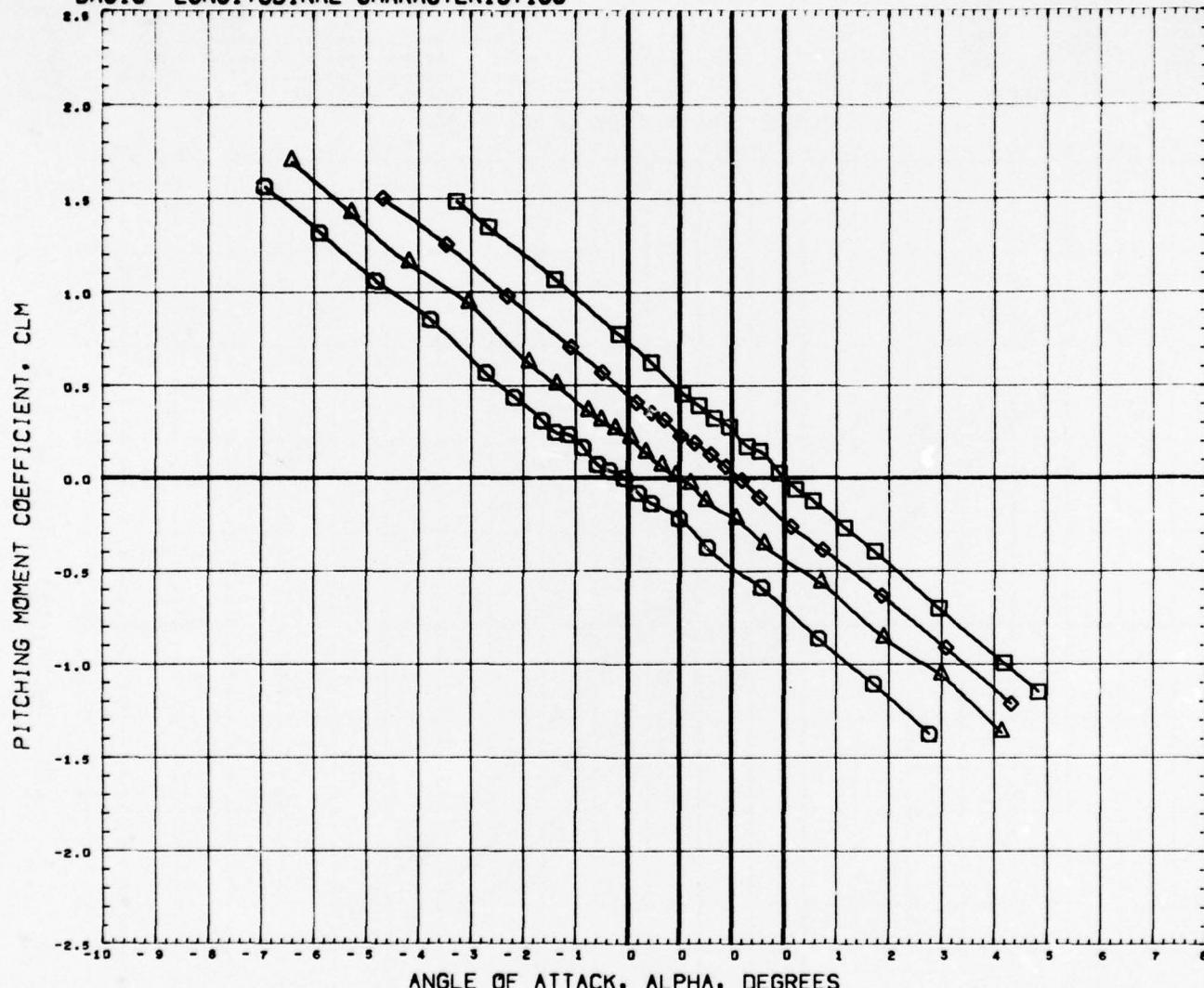


SYMBOL	MACH	PHI	PARAMETRIC VALUES
○	1.049	0.000	M-LGTH 1.500
△	1.102	LS-LGH	S-WDTH 0.200
◊	1.199	R-WDTH	1.000 C-LGTH 5.000
□	1.300	C-DIA	0.400

REFERENCE FILE

REFERENCE INFORMATION		
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YMRP	0.0000	INCHES
ZMRP	0.0000	INCHES
SCALE	0.0000	NONE

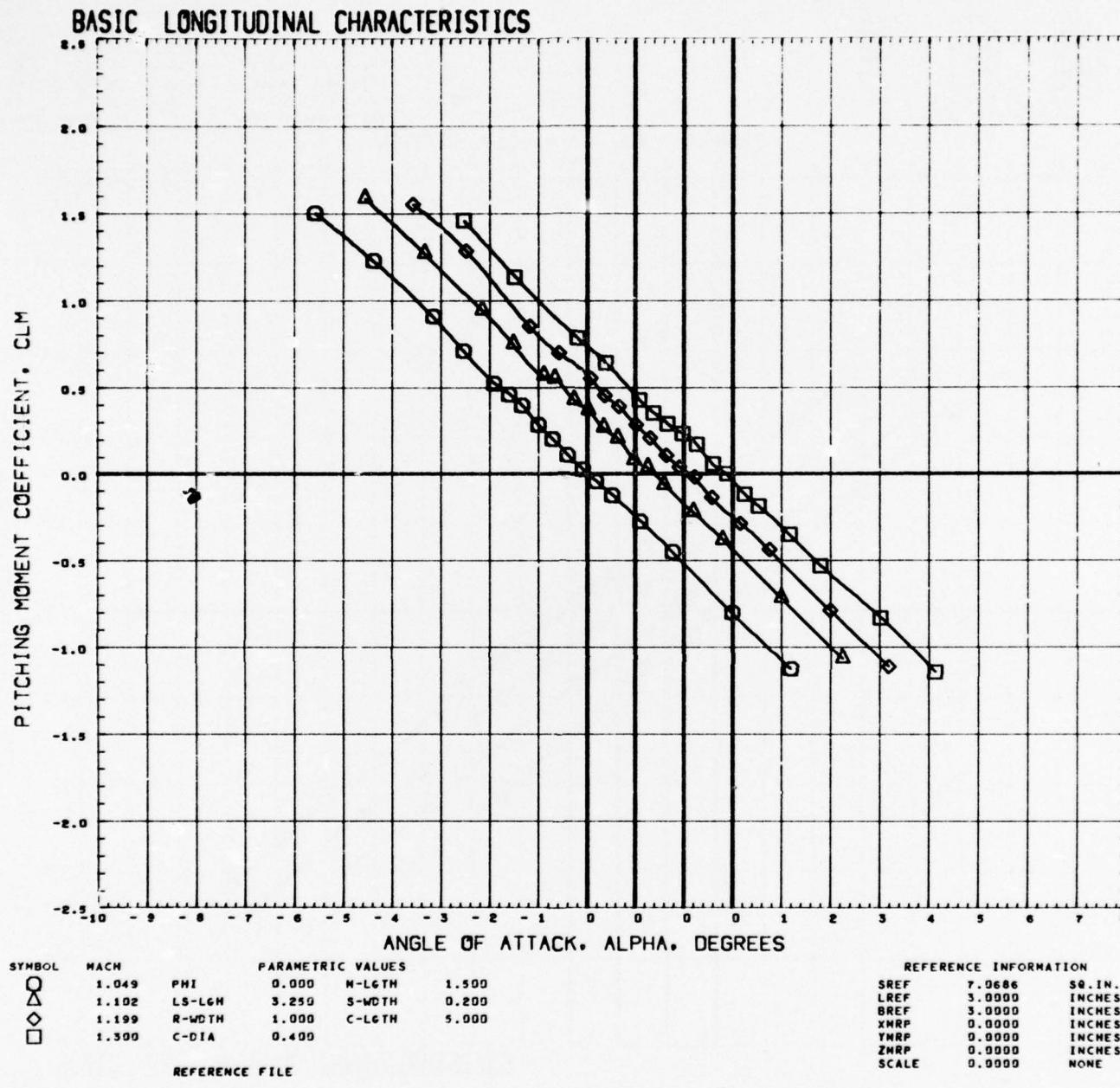
### BASIC LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES		
○	0.500	PHI	0.000	M-LGTH 1.500
△	0.601	LS-LGH	3.250	S-WDTH 0.200
◊	0.947	R-WDTH	1.000	C-LGTH 5.000
□	1.002	C-DIA	0.400	

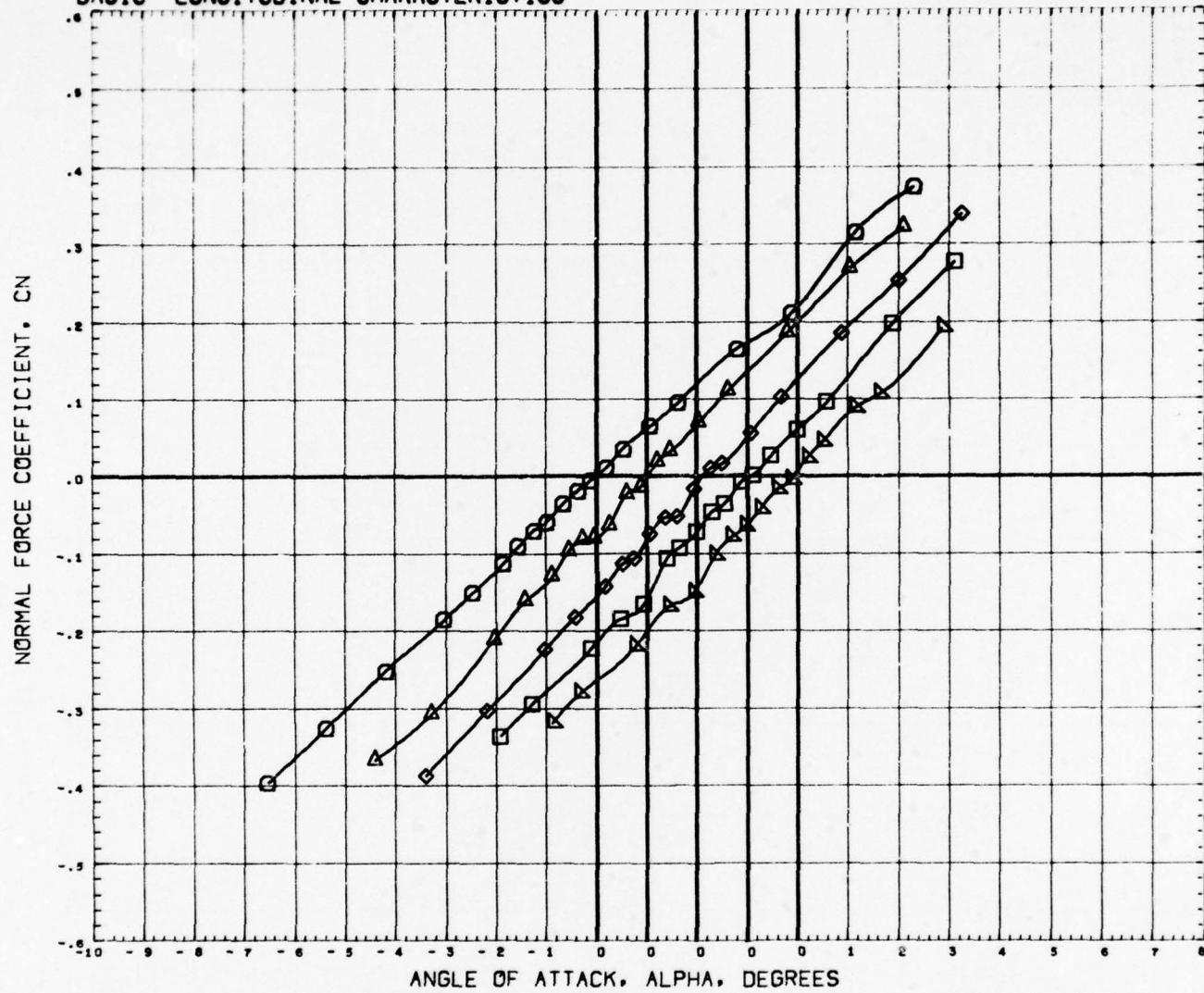
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YMRP	0.0000	INCHES
ZMRP	0.0000	INCHES
SCALE	0.0000	NONE

REFERENCE FILE



AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL.N1R2C1 (RTAR09) 10 MAR 72 PAGE 76

### BASIC LONGITUDINAL CHARACTERISTICS

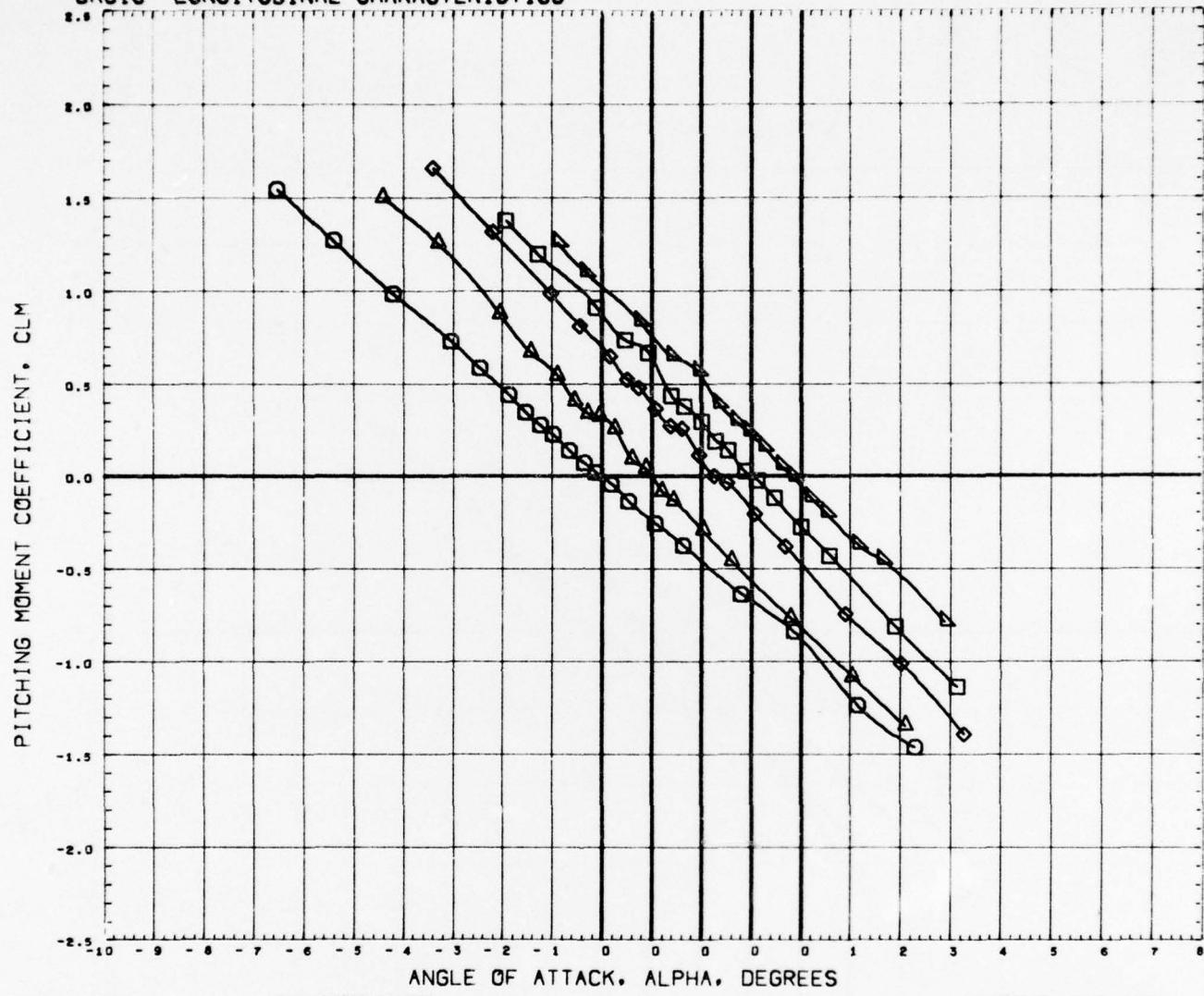


SYMBOL	MACH	PARAMETRIC VALUES			
○	0.949	PHI	0.000	M-LGTH	2.250
△	1.005	LS-LGH	3.000	S-WDTH	0.200
◊	1.099	R-WDTH	1.000	C-LGTH	5.000
□	1.198	C-DIA	0.400		
	1.296				

REFERENCE FILE

REFERENCE INFORMATION		
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BREF	3.0000	INCHES
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### BASIC LONGITUDINAL CHARACTERISTICS

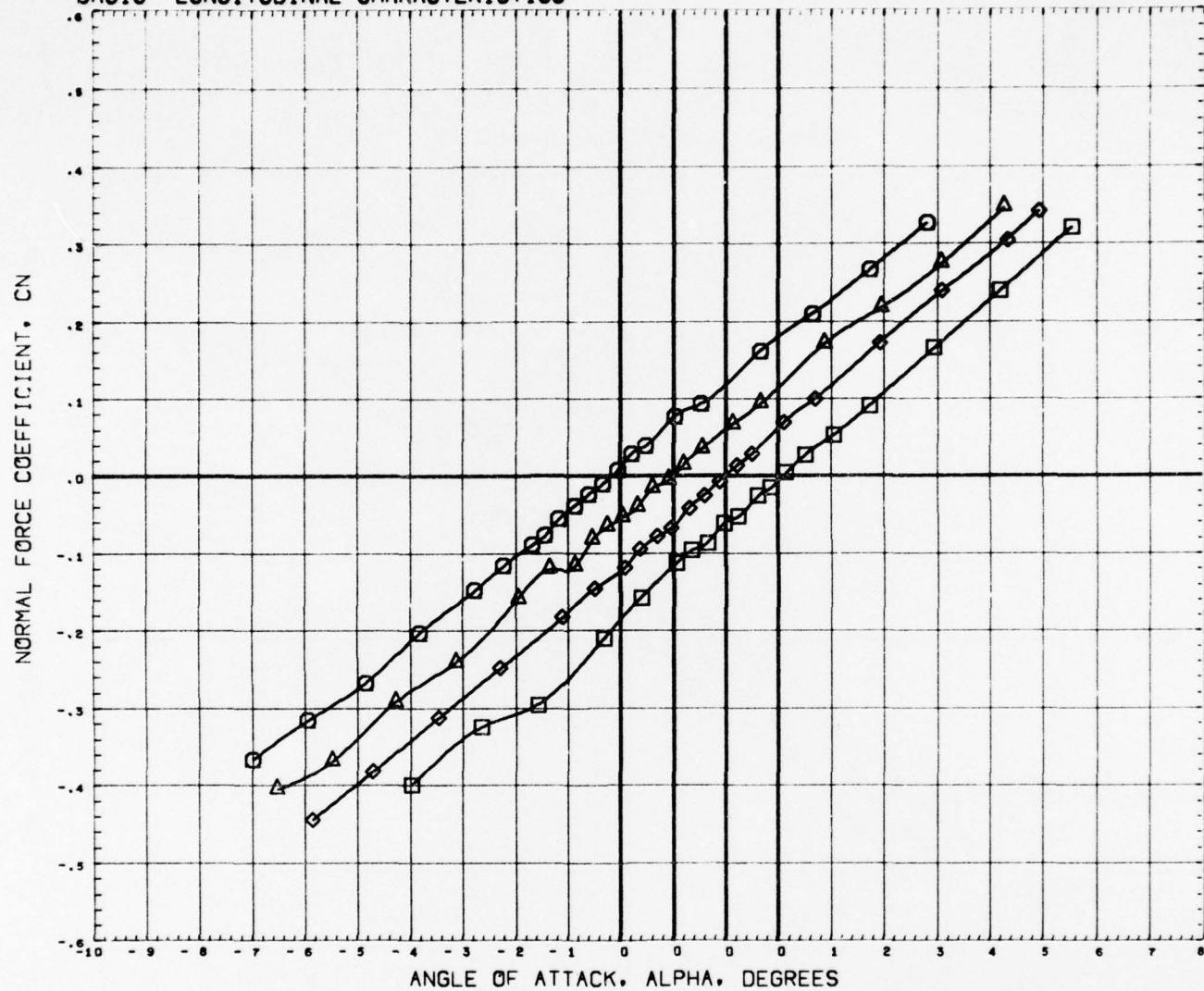


PARAMETRIC VALUES					
0.949	PHI	0.000	M-LGTH	2.250	
1.005	LS-LGH	3.000	S-WDTH	0.200	
1.099	R-WDTH	1.000	C-LGTH	5.000	
1.198	C-DIA	0.400			
1.296					

REFERENCE FILE

REFERENCE INFORMATION		
SREF	7.0686	SR. IN.
LREF	3.0000	INCHES
BREF	3.0000	INCHES
XMRP	0.0000	INCHES
YMRP	0.0000	INCHES
ZMRP	0.0000	INCHES
SCALE	0.0000	NONE

### BASIC LONGITUDINAL CHARACTERISTICS

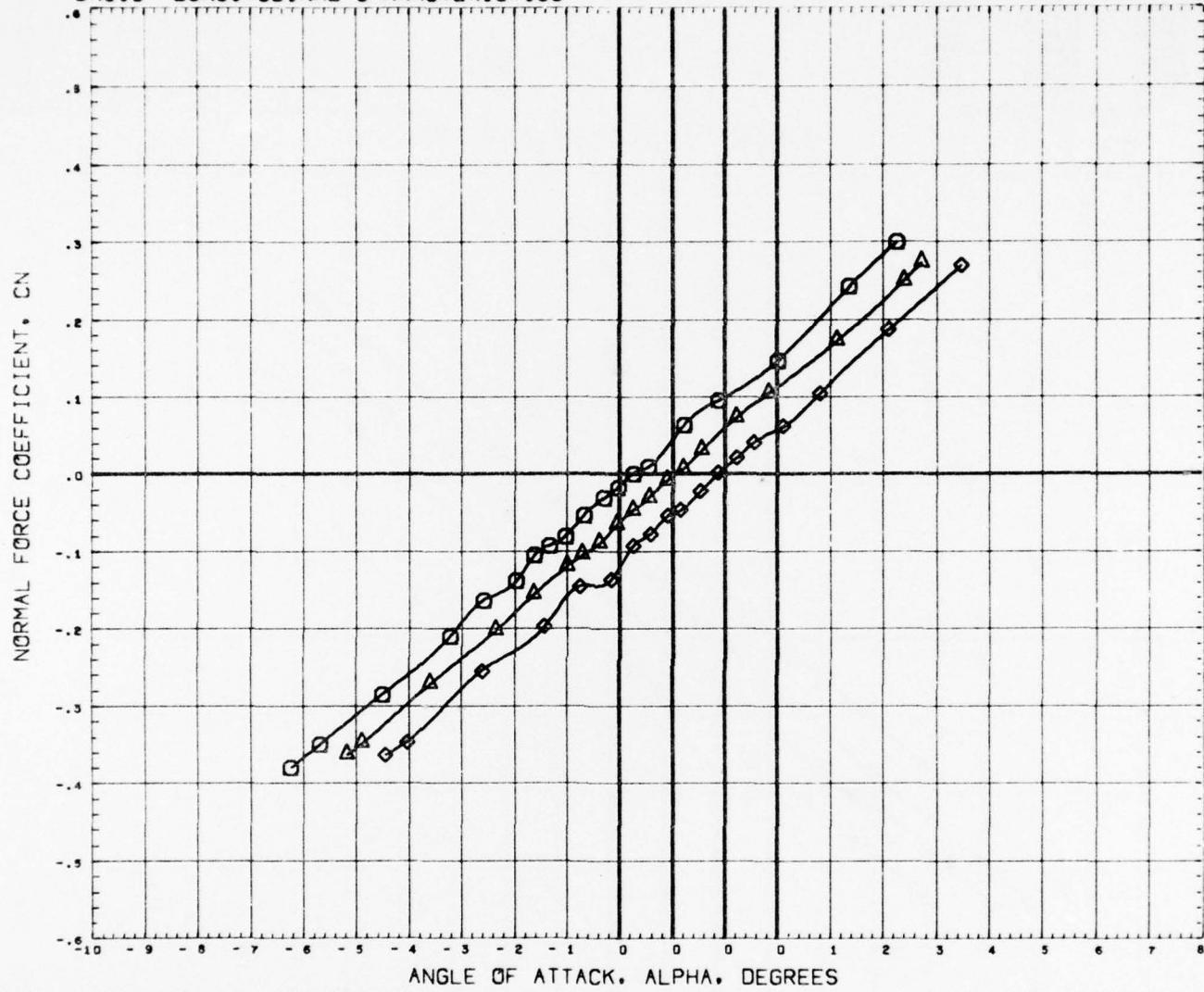


SYMBOL	MACH	PARAMETRIC VALUES			
○	0.499	PHI	0.000	M-LGTH	2.250
△	0.801	LS-LGH	2.500	S-WDTH	0.400
◊	0.957	R-WDTH	1.000	C-LGTH	5.000
□	1.000	C-DIA	0.400		

REFERENCE FILE

REFERENCE INFORMATION		
SREF	7.0686	SQ. IN.
LREF	3.0000	INCHES
BREF	3.0000	INCHES
XHLP	0.0000	INCHES
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ZHLP	0.0000	INCHES
SCALE	0.0000	NONE

## BASIC LONGITUDINAL CHARACTERISTICS

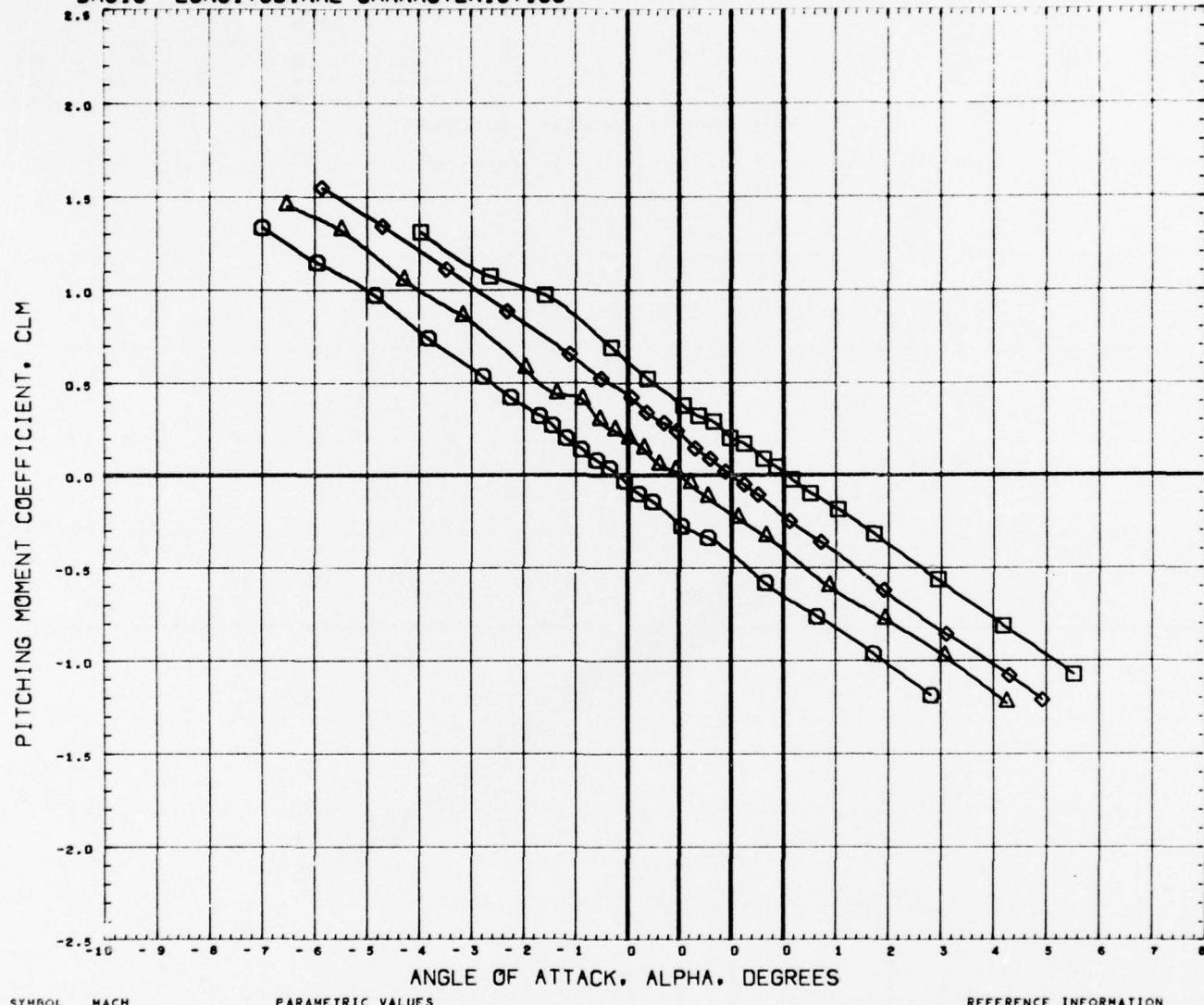


SYMBOL	MACH	PHI	PARAMETRIC VALUES
○	1.102	0.000	M-LGTH 2.250
△	1.197	LS-LGH 2.500	S-WDTH 0.400
◊	1.298	R-WDTH 1.000	C-LGTH 5.000
		C-DIA 0.400	

REFERENCE FILE

REFERENCE INFORMATION		
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LREF	3.0000	INCHES
BREF	3.0000	INCHES
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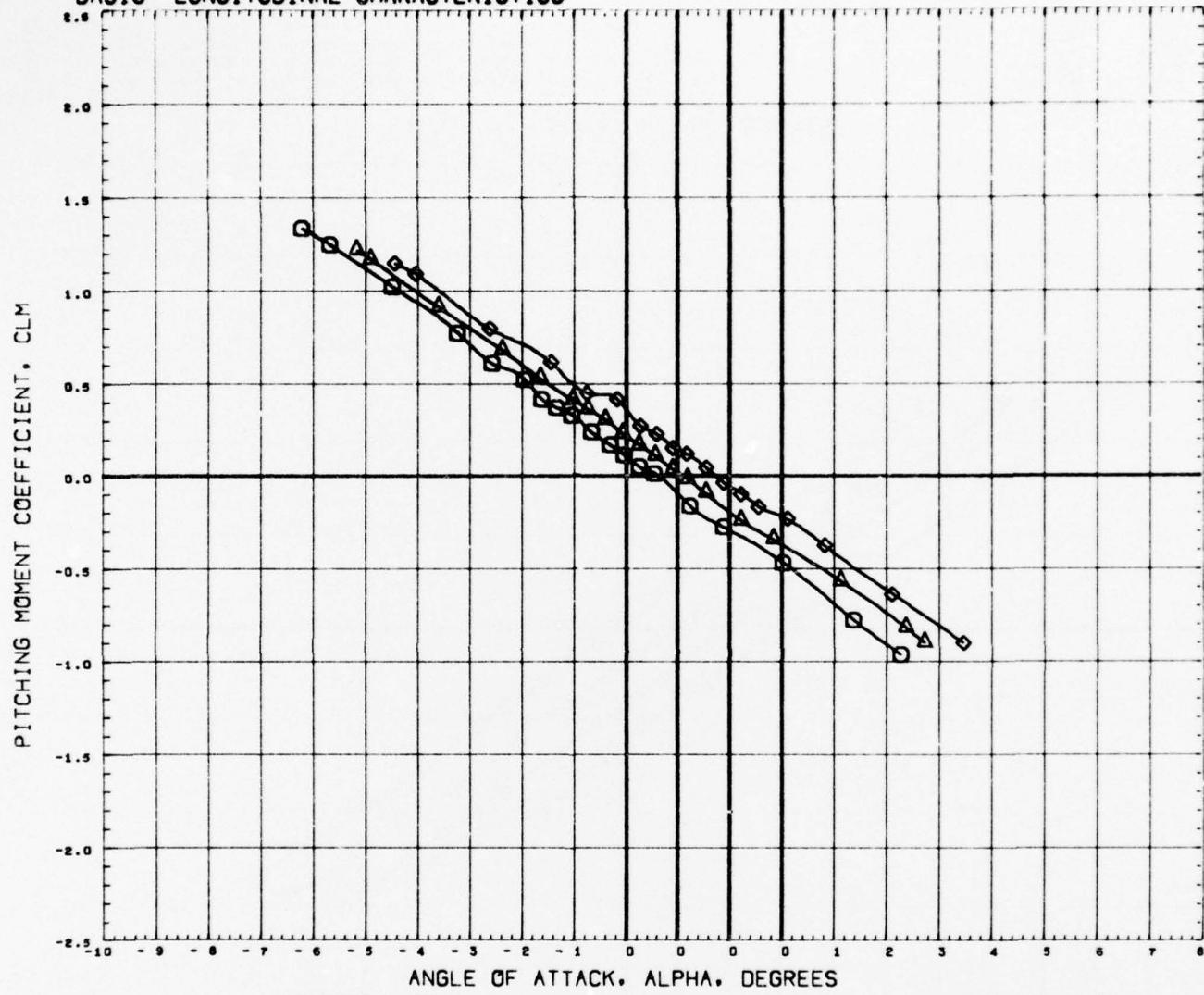
### BASIC LONGITUDINAL CHARACTERISTICS



REFERENCE FILE

AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL, N1R5C1 (RTAR14) 10 MAR 72 PAGE 81

### BASIC LONGITUDINAL CHARACTERISTICS

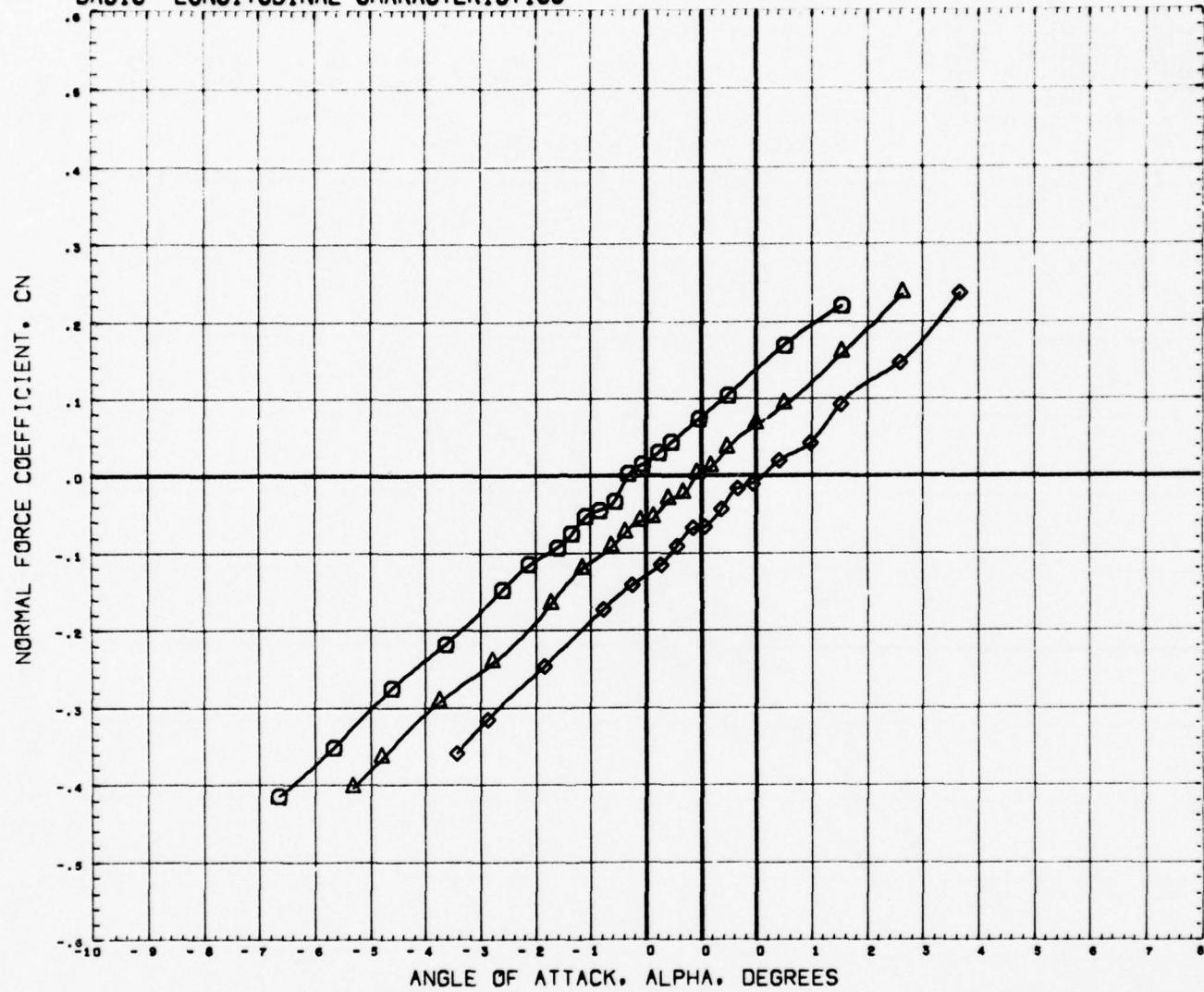


SYMBOL	MACH	PARAMETRIC VALUES			
○	1.102	PHI	0.000	M-LGTH	2.250
△	1.197	LS-LGTH	2.500	S-WDTH	0.400
◊	1.298	R-WDTH	1.000	C-LGTH	5.000
		C-DIA	0.400		

REFERENCE FILE

REFERENCE INFORMATION		
SREF	7.0686	\$0. IN.
LREF	3.0000	INCHES
BREF	3.0000	INCHES
XNRP	0.0000	INCHES
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SCALE	0.0000	NONE

## BASIC LONGITUDINAL CHARACTERISTICS

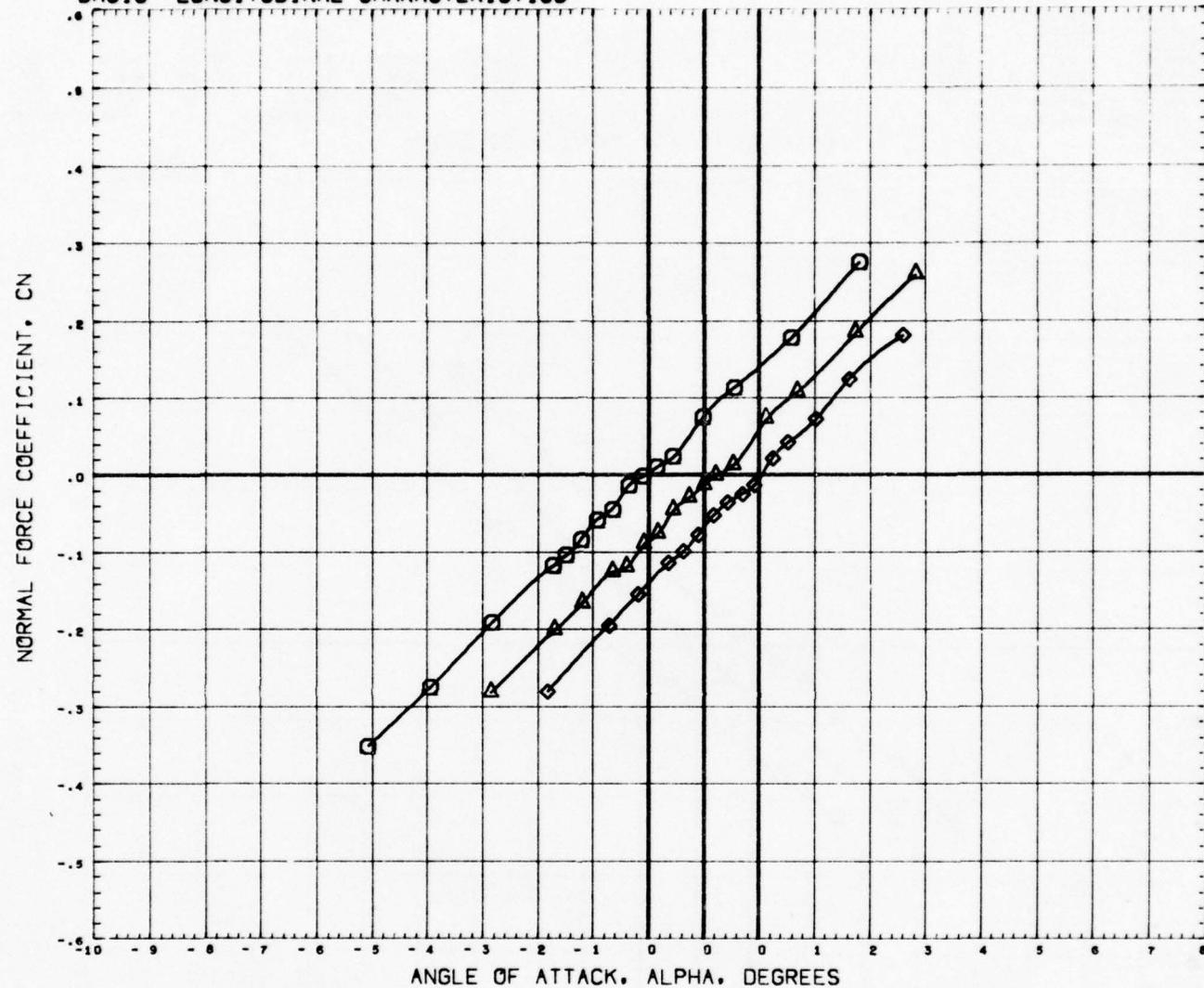


SYMBOL	MACH	PARAMETRIC VALUES		
○	0.501	PHI	0.000	M-LGTH 2.250
△	0.803	LS-LGH	4.000	S-WDTH 0.200
◊	0.946	R-WDTH	1.000	C-LGTH 5.000
		C-DIA	0.500	

REFERENCE FILE

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BREF	3.0000	INCHES
XHRP	0.0000	INCHES
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SCALE	0.0000	NONE

## BASIC LONGITUDINAL CHARACTERISTICS

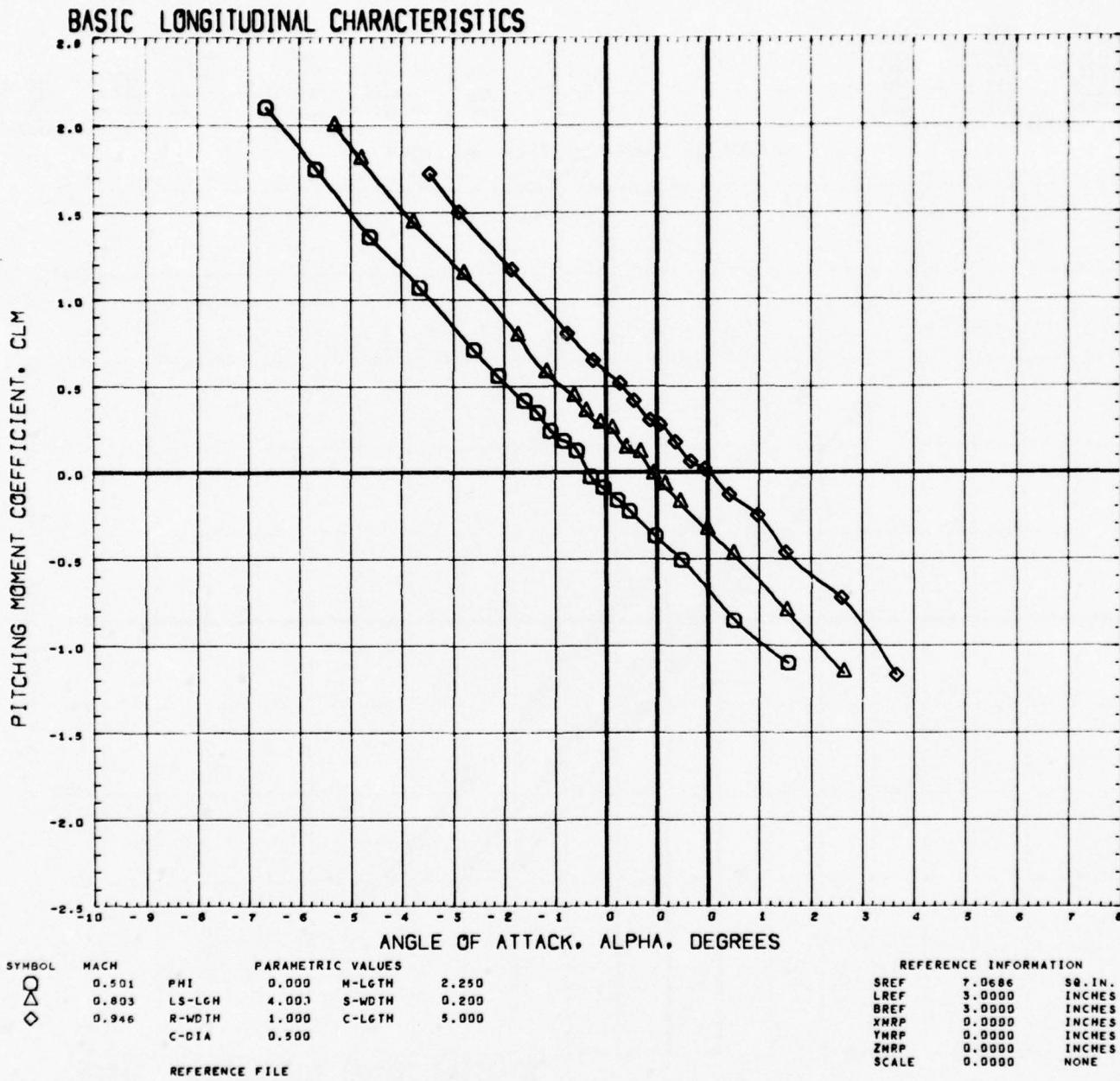


SYMBOL	MACH		PARAMETRIC VALUES		
○	1.101	PHI	0.000	M-LGTH	2.250
△	1.199	LS-LGH	4.000	S-WDTH	0.200
◊	1.298	R-WDTH	1.000	C-LGTH	5.000
		C-DIA	0.500		

REFERENCE INFORMATION		
SREF	7.0686	\$0. IN.
LREF	3.0000	INCHES
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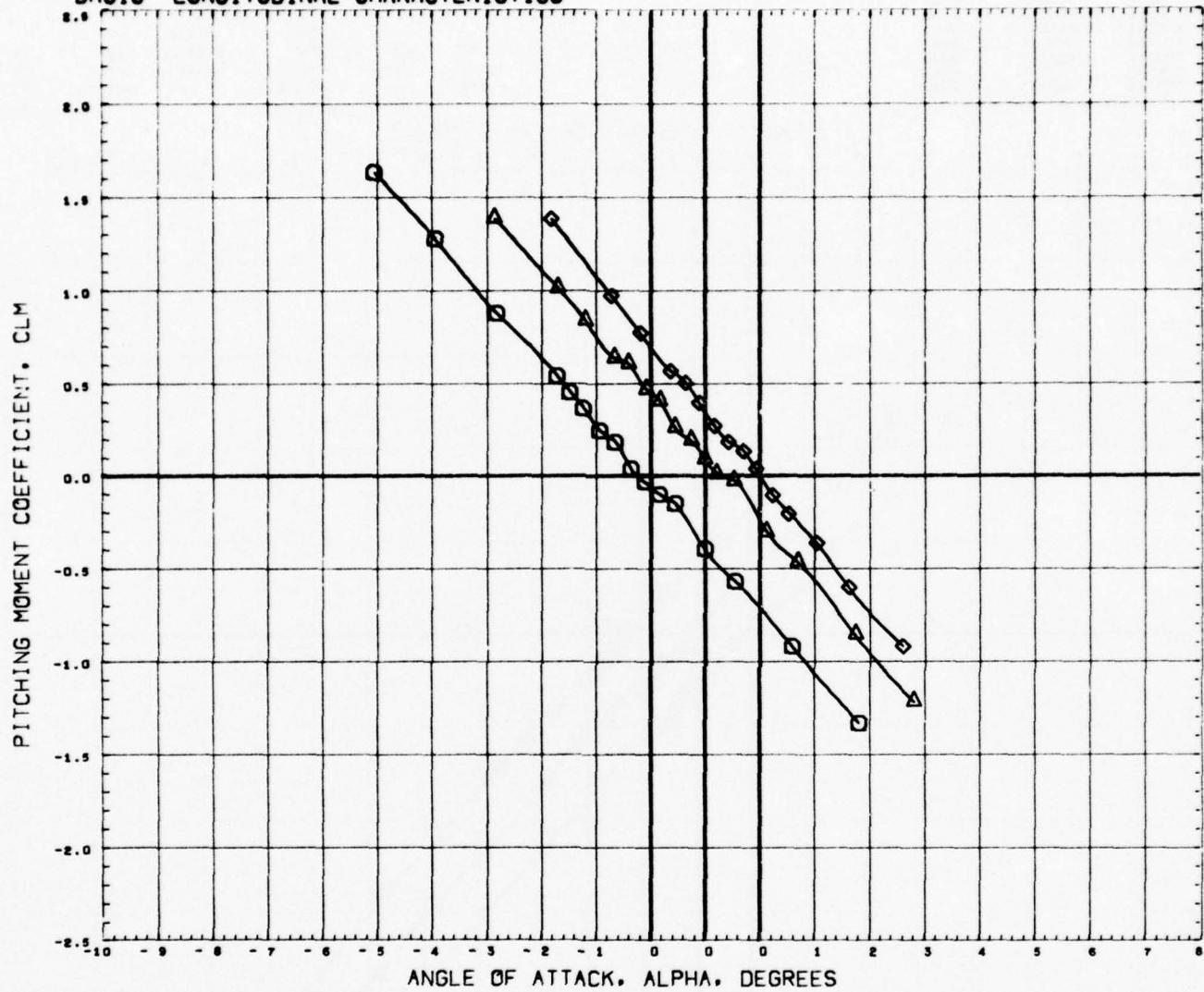
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AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL, N1R6C2 (RTAR17) 10 MAR 72 PAGE 84



AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL. N1R6C2 (RTAR17) 10 MAR 72 PAGE 85

## BASIC LONGITUDINAL CHARACTERISTICS

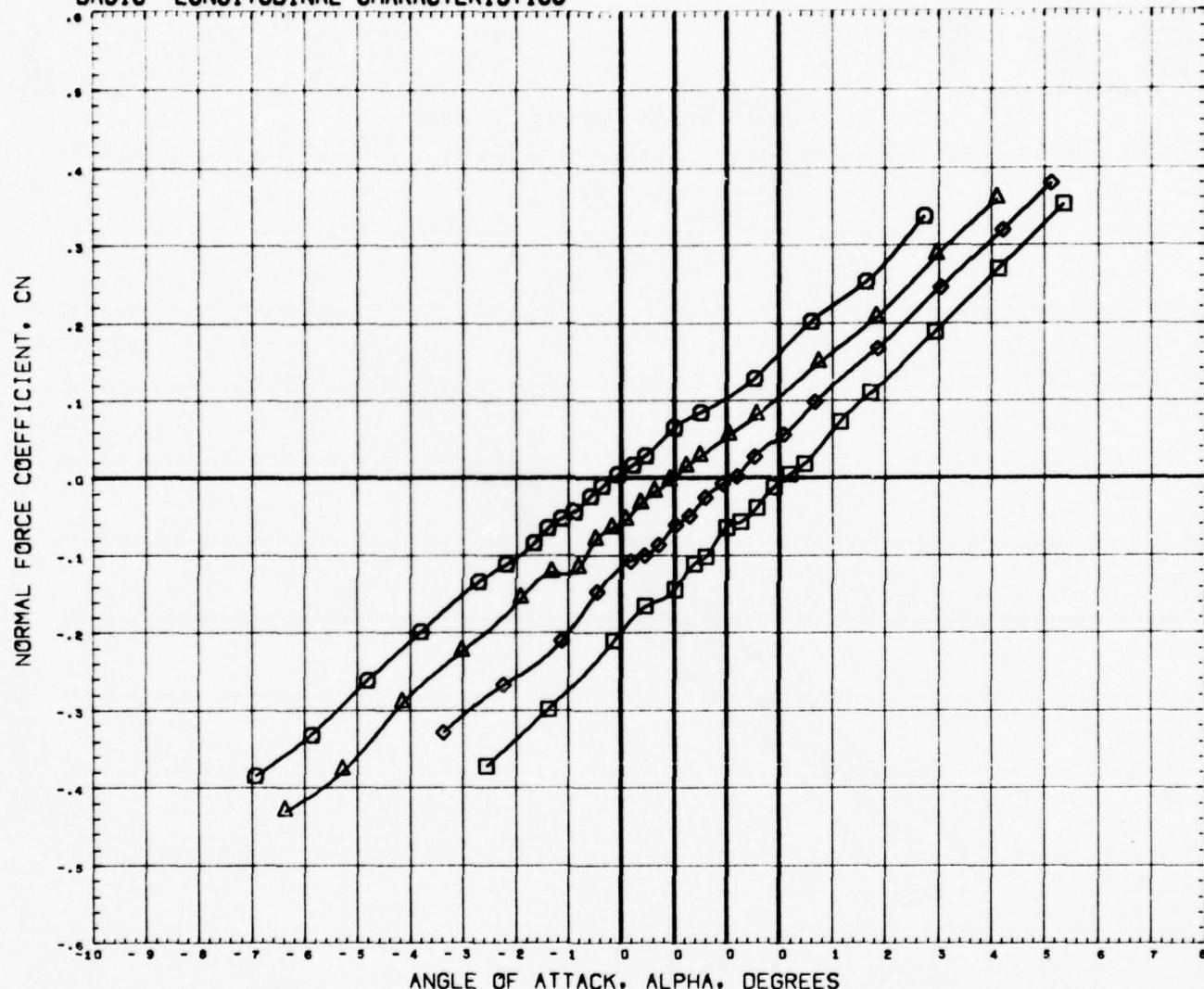


SYMBOL	MACH	PARAMETRIC VALUES			
○	1.101	PHI	0.000	M-LGTH	2.250
△	1.199	LS-LGH	4.000	S-WDTH	0.200
◇	1.298	R-WDTH	1.000	C-LGTH	5.000
		C-DIA	0.500		

REFERENCE FILE

REFERENCE INFORMATION		
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BREF	3.0000	INCHES
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YHRC	0.0000	INCHES
ZHRC	0.0000	INCHES
SCALE	0.0000	NONE

### BASIC LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES			
○	0.500	PHI	0.000	M-LGTH	1.500
◇	0.602	LS-LGH	3.250	S-WDTH	0.200
◆	0.950	R-WDTH	1.000	C-LGTH	5.000
□	1.003	C-DIA	0.500		

REFERENCE INFORMATION		
SREF	7.0686	\$0. IN.
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SCALE	0.0000	NONE

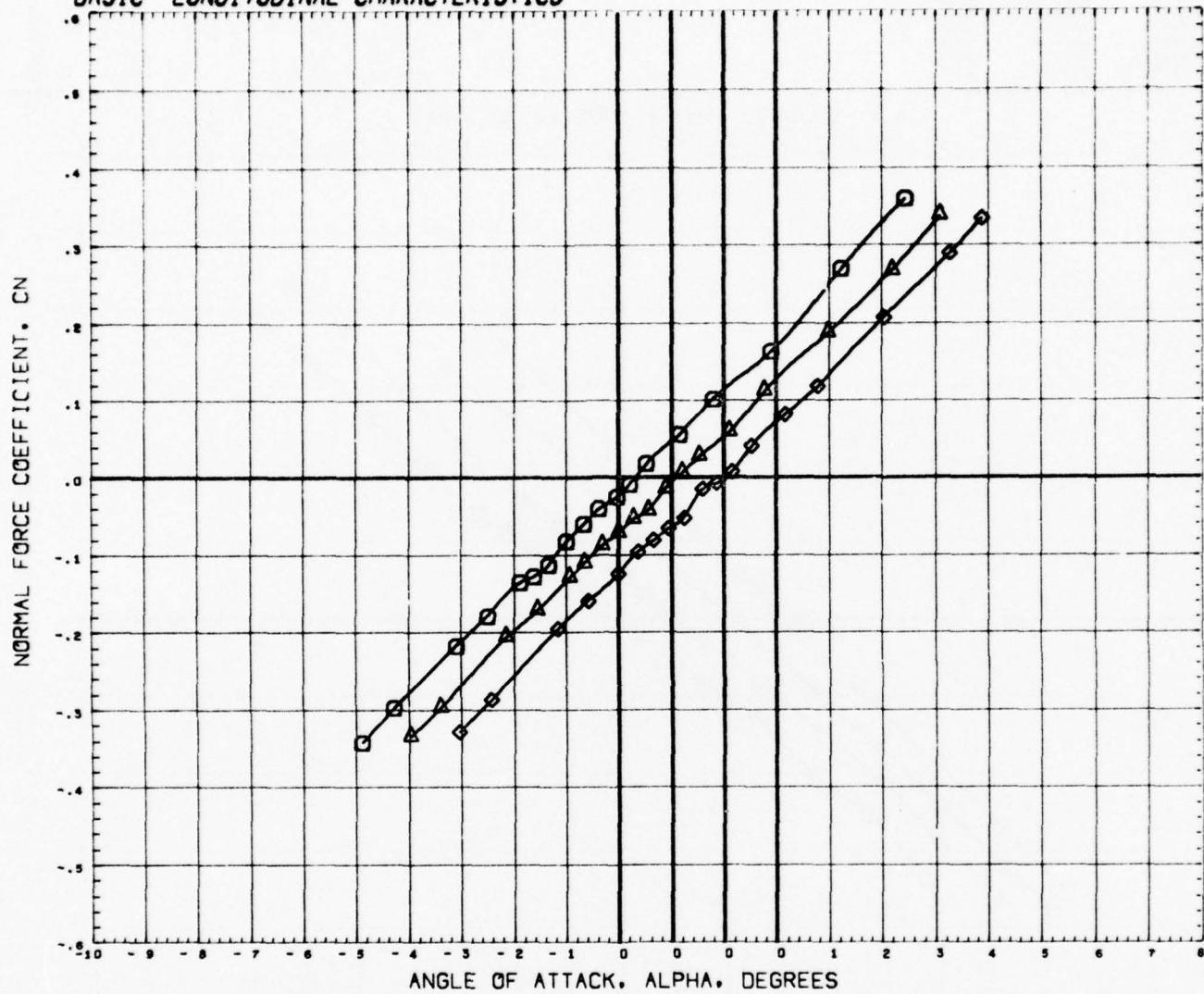
REFERENCE FILE

AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL.N1R2C2 (RTAR18) 10 MAR 72

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### BASIC LONGITUDINAL CHARACTERISTICS



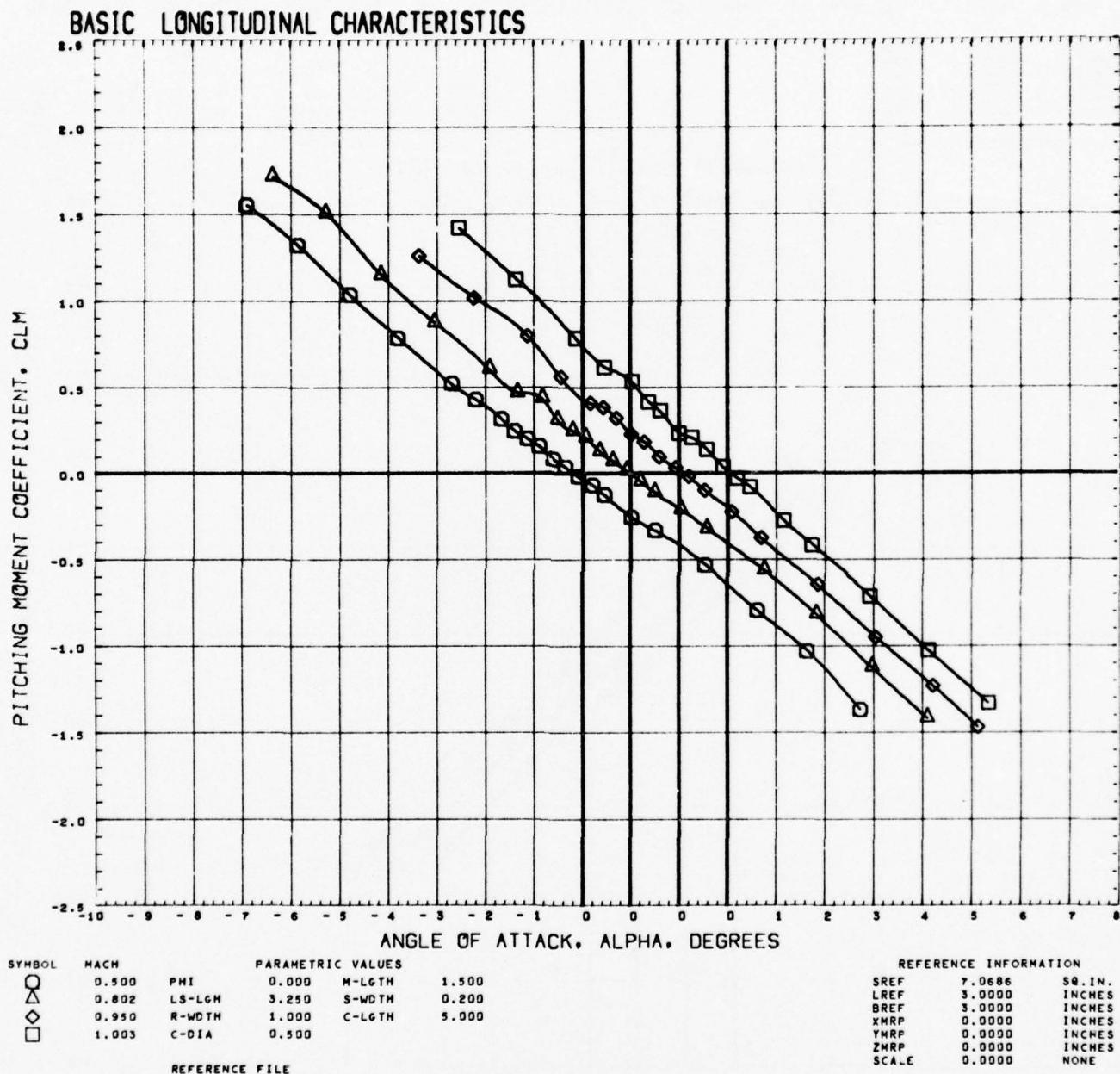
SYMBOL	MACH	PARAMETRIC VALUES
○	1.096	PHI 0.000 M-LGTH 1.500
△	1.200	LS-LGH 3.250 S-WDTH 0.200
◇	1.300	R-WDTH 1.000 C-LGTH 5.000
	C-DIA	0.500

REFERENCE INFORMATION		
SREF	7.0606	SQ. IN.
LREF	3.0000	INCHES
BREF	3.0000	INCHES
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REFERENCE FILE

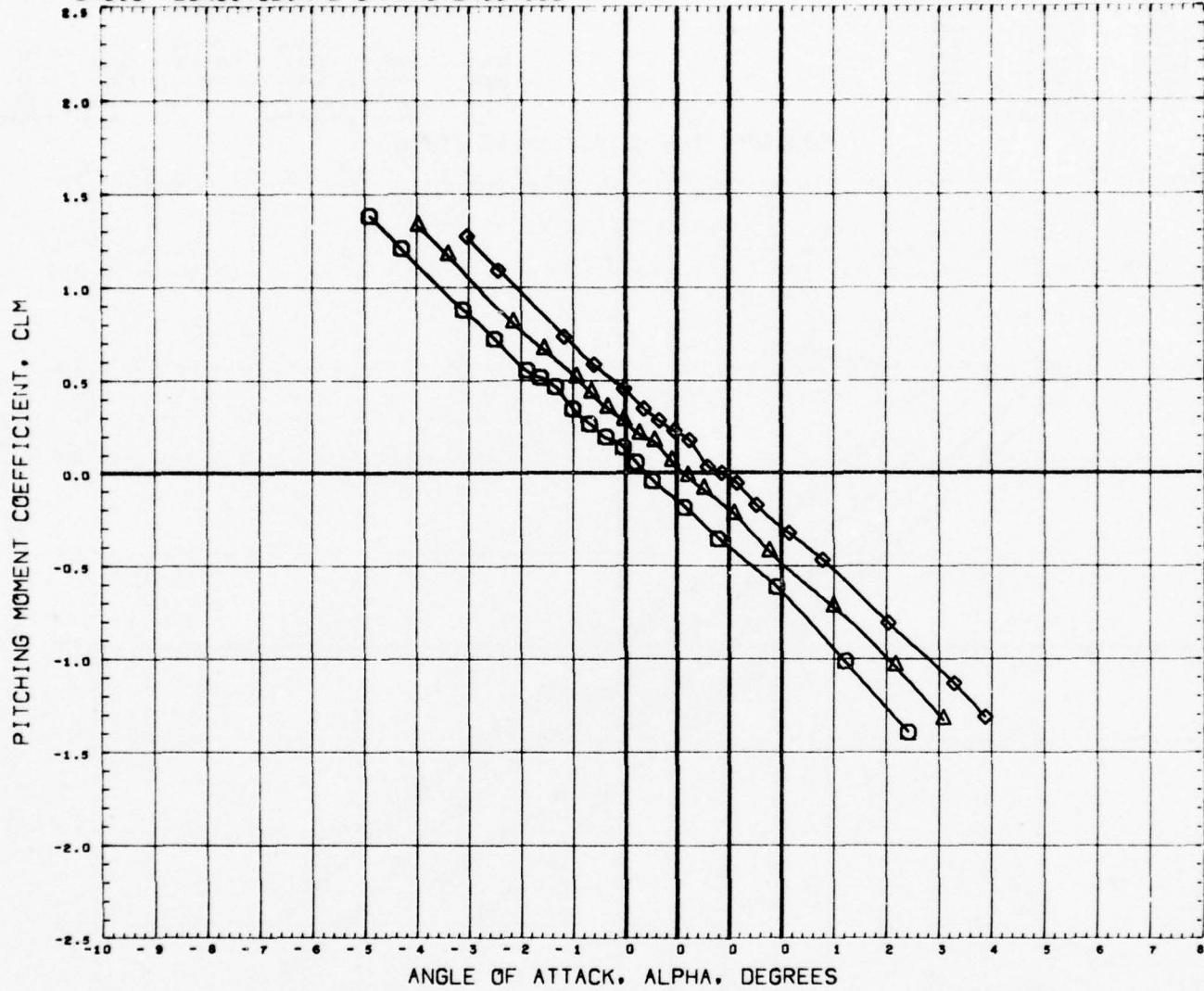
AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL.N1R2C2 (RTAR18) 10 MAR 72

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AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL.N1R2C2 (RTAR18) 10 MAR 72 PAGE 89

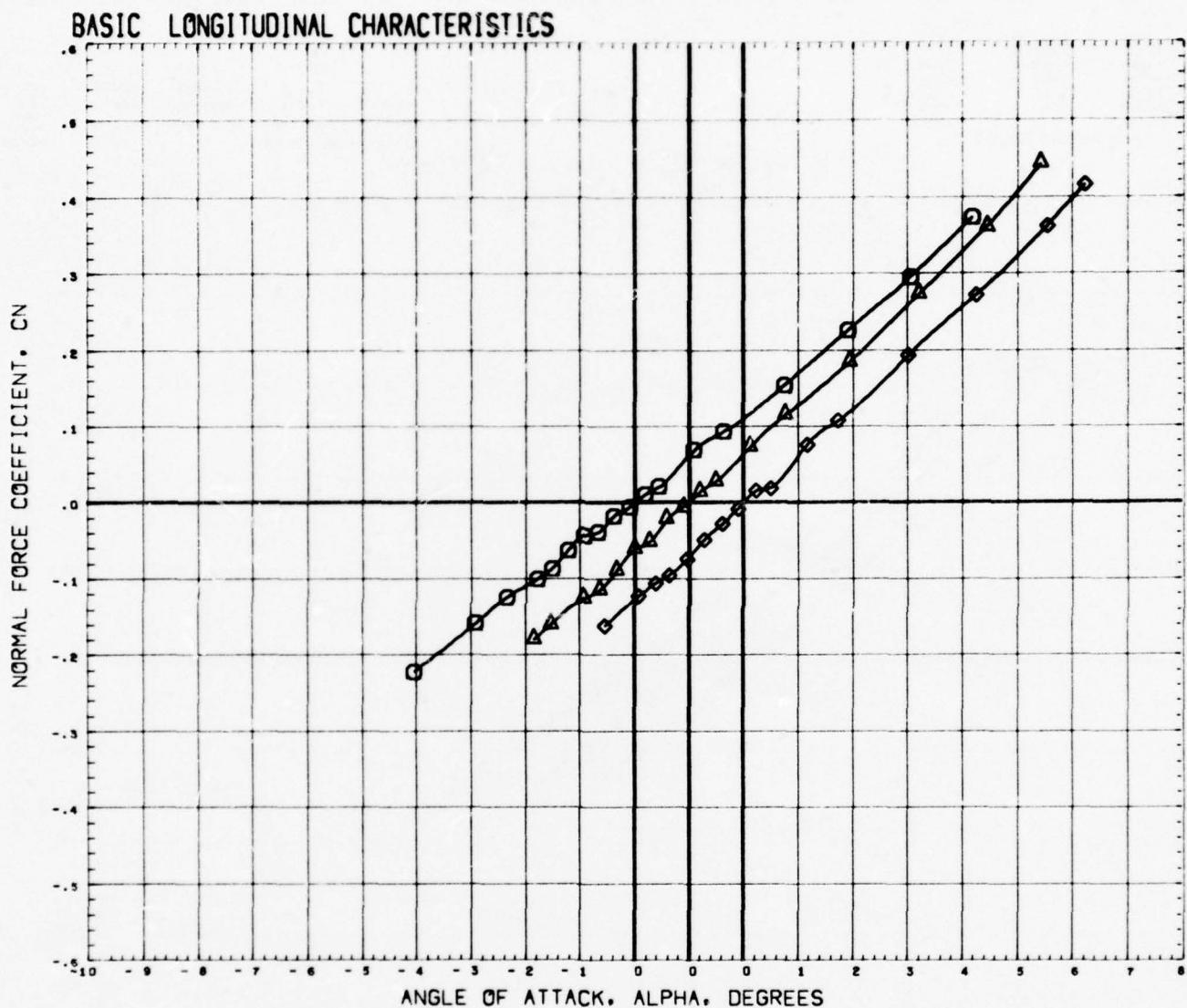
## BASIC LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES		
○	1.096	PHI	0.000	M-LGTH 1.500
△	1.200	LS-LGH	3.250	S-WDTH 0.200
◇	1.300	R-WDTH	1.000	C-LGTH 5.000
		C-DIA	0.500	

REFERENCE INFORMATION		
SREF	7.0686	SQ. IN.
LREF	3.0000	INCHES
BREF	3.0000	INCHES
XMRP	0.0000	INCHES
YMRP	0.0000	INCHES
ZMRP	0.0000	INCHES
SCALE	0.0000	NONE

REFERENCE FILE



SYMBOL      MACH                    PARAMETRIC VALUES

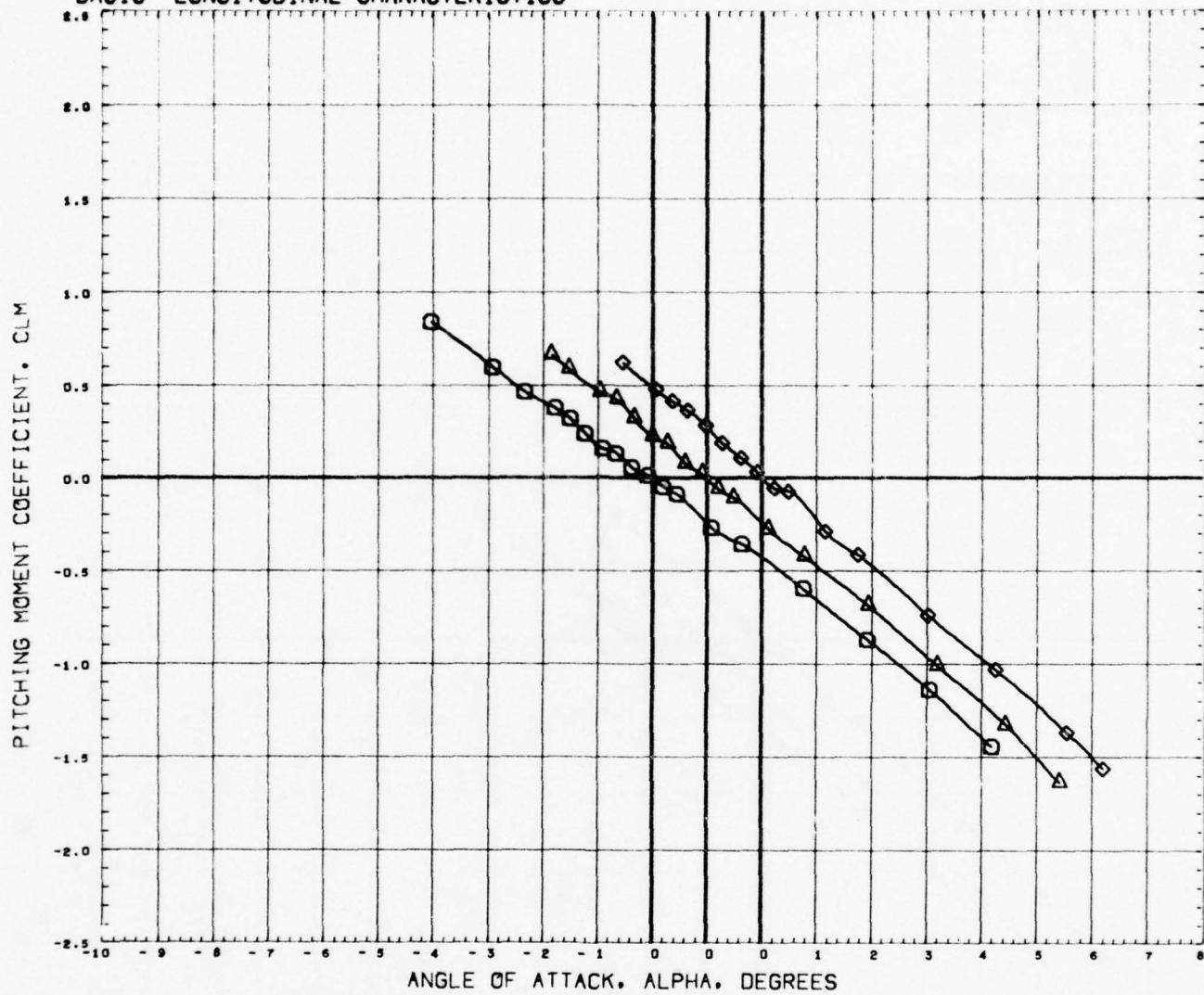
○	0.802	PHI	45.000	M-LGTH	1.500
△	0.997	LS-LGH	3.250	S-WDT	0.200
◊	1.200	R-WDT	1.000	C-LGTH	5.000
		C-DIA	0.500		

REFERENCE FILE

REFERENCE INFORMATION

SREF	7.0666	SQ. IN.
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XMRF	0.0000	INCHES
YMRF	0.0000	INCHES
ZMRP	0.0000	INCHES
SCALE	0.0000	NONE

## BASIC LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH		PARAMETRIC VALUES	
○	0.802	PHI	45.000	M-LGTH 1.500
△	0.997	LS-LGH	3.250	S-WDTH 0.200
◊	1.200	R-WDTH	1.000	C-LGTH 5.000
		C-DIA	0.500	

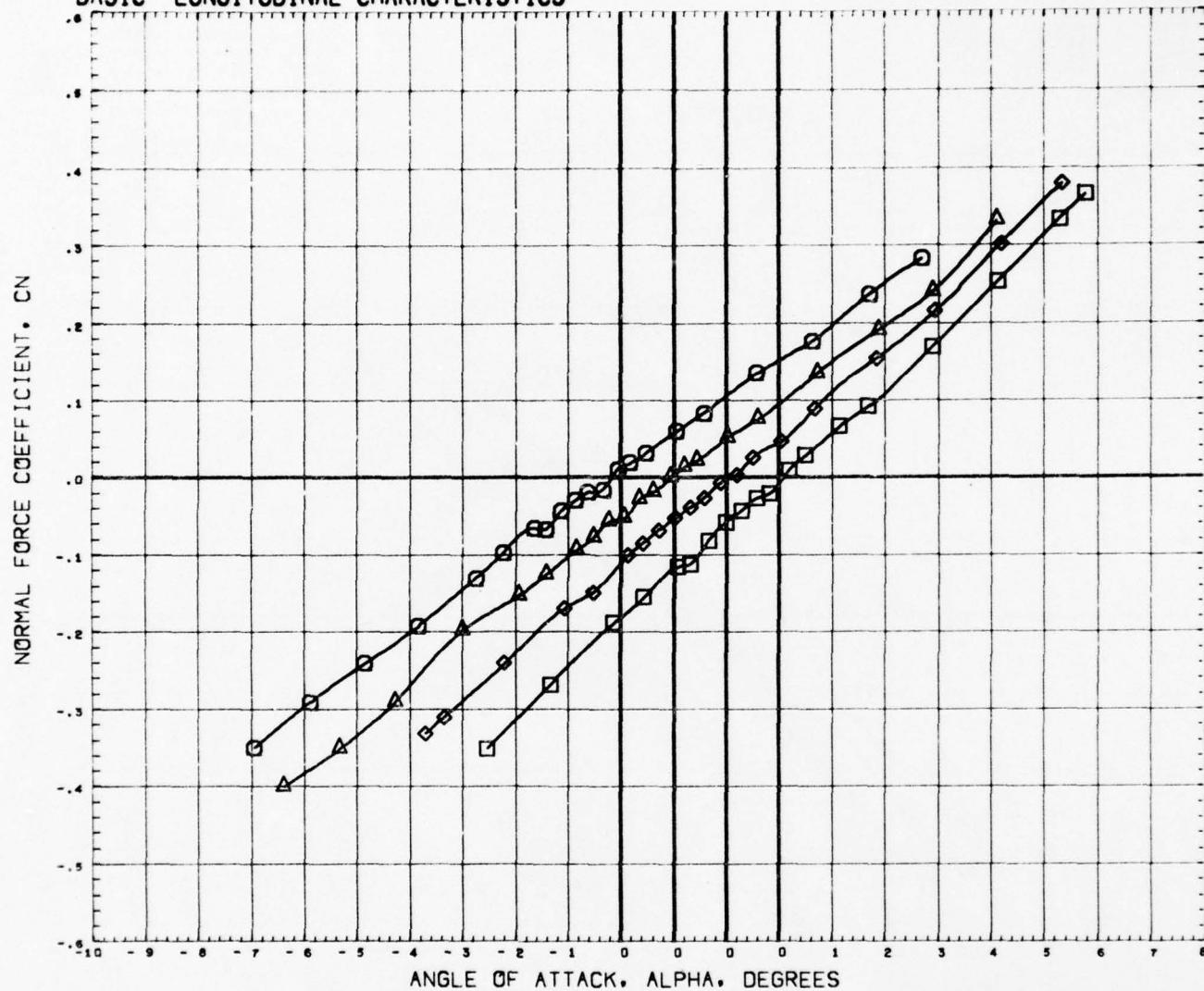
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ZMRP	0.0000	INCHES
SCALE	0.0000	NONE

**REFERENCE FILE**

AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL.N1R2C2 (RTAR19) 10 MAR 72

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### BASIC LONGITUDINAL CHARACTERISTICS

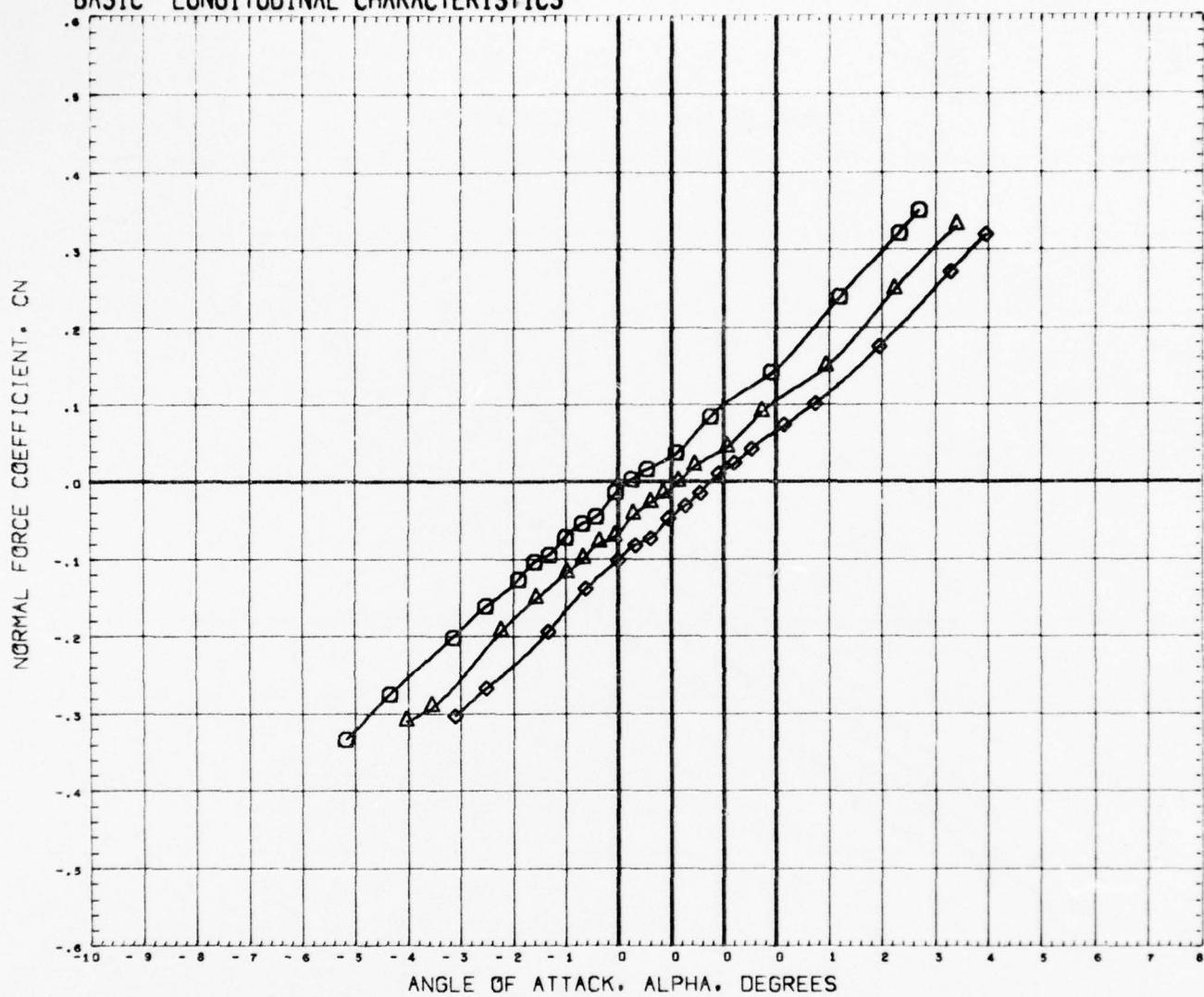


SYMBOL	MACH	PARAMETRIC VALUES
○	0.501	PHI 0.000 M-LGTH 1.500
△	0.803	LS-LGTH 3.250 S-WDTH 0.200
◇	0.947	R-WDTH 1.000 C-LGTH 5.000
□	0.998	C-DIA 0.670

REFERENCE FILE

REFERENCE INFORMATION		
SREF	7.0686	SQ. IN.
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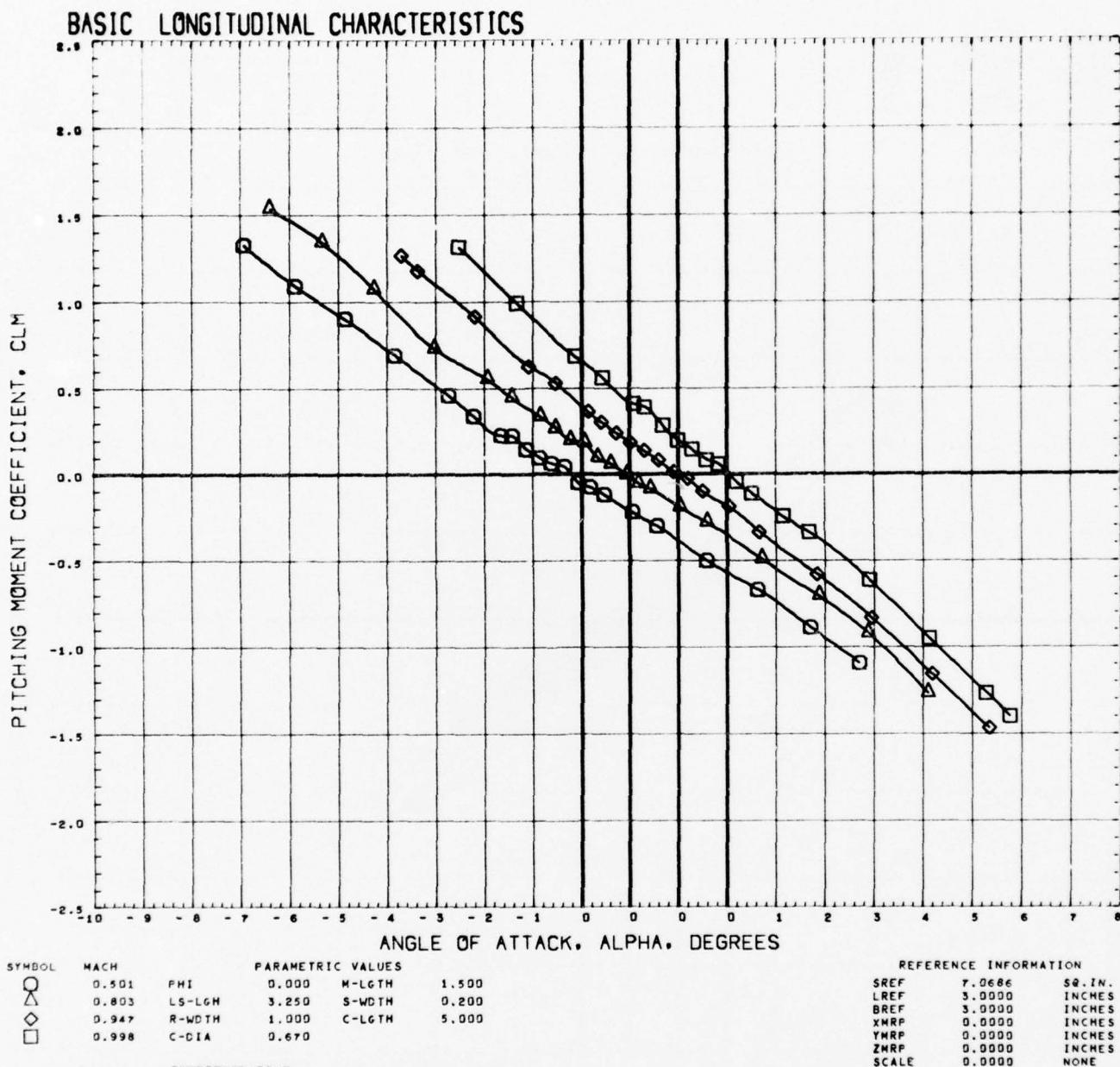
## BASIC LONGITUDINAL CHARACTERISTICS



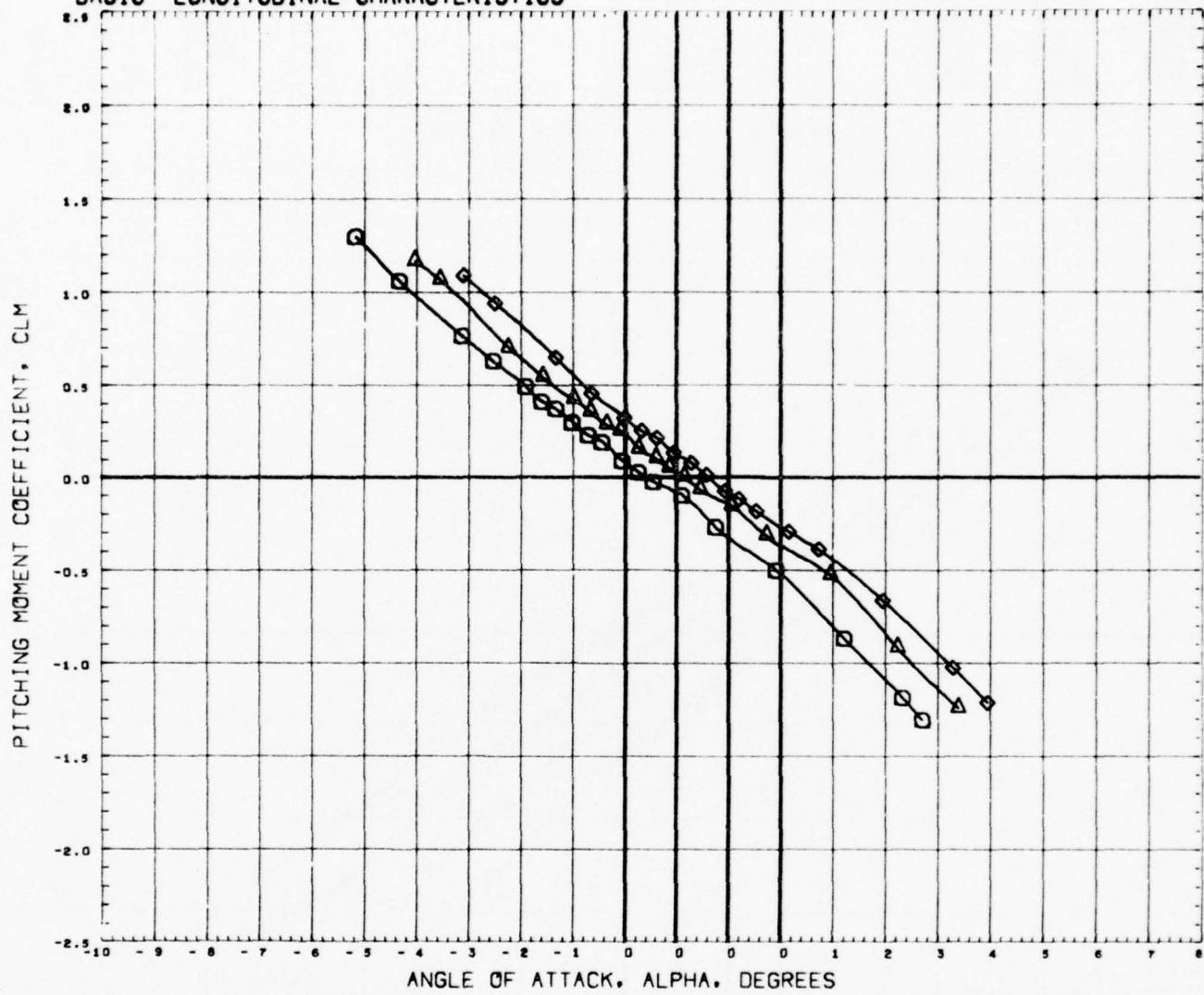
SYMBOL	MACH	PARAMETRIC VALUES		
$\circ$	1.100	PHI	0.000	M-LGTH 1.500
	1.199	LS-LGH	3.250	S-WDTH 0.200
$\diamond$	1.299	R-WDTH	1.000	C-LGTH 5.000
		C-DIA	0.670	

REFERENCE FILE

REFERENCE INFORMATION		
SREF	7.0686	50. IN.
LREF	3.0000	INCHES
BREF	3.0000	INCHES
XMRP	0.0000	INCHES
YMRP	0.0000	INCHES
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### BASIC LONGITUDINAL CHARACTERISTICS



SYMBOL      MACH      PARAMETRIC VALUES

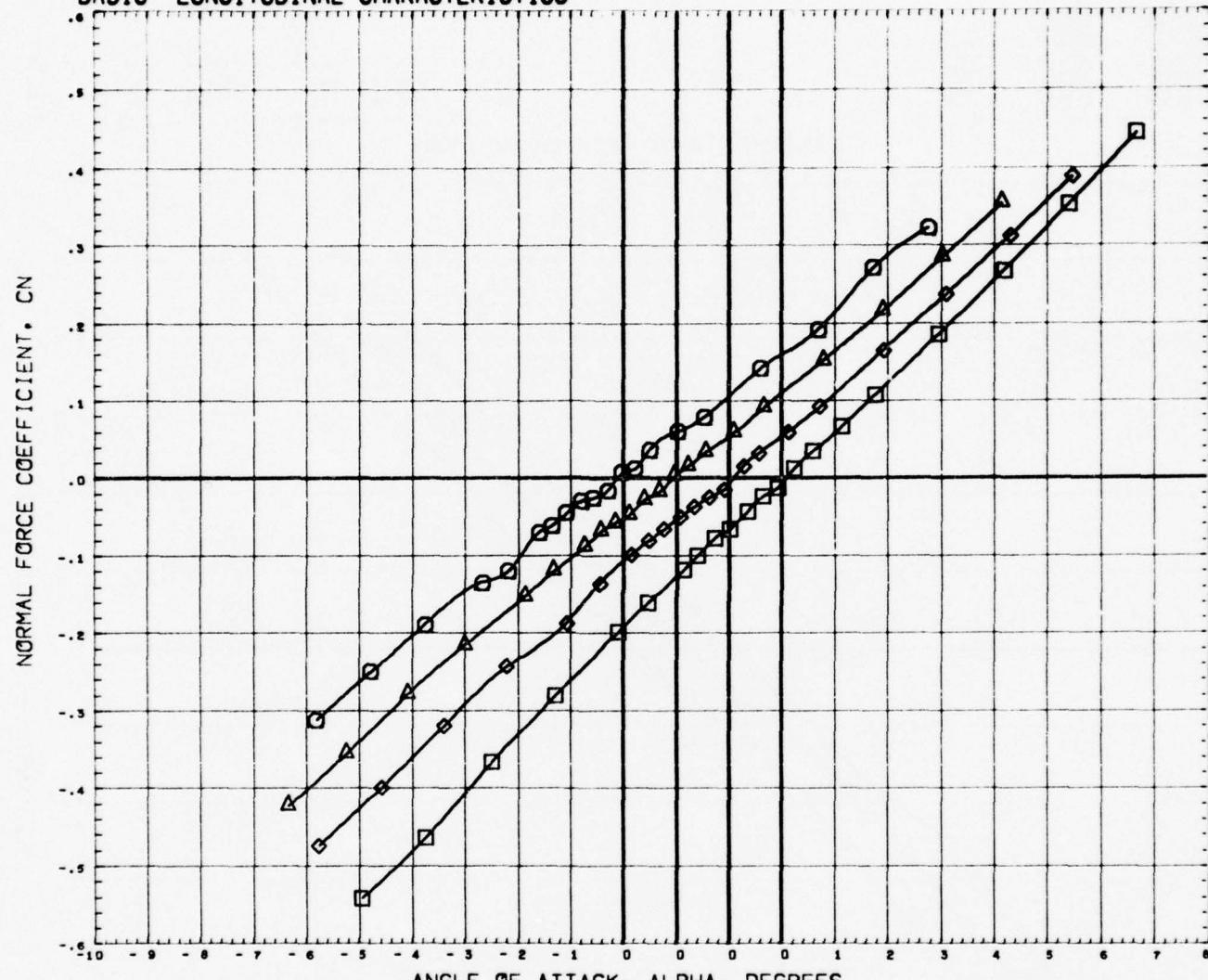
○	1.100	PHI	0.000	M-LGTH	1.500
○	1.199	LS-LGH	3.250	S-WDTH	0.200
○	1.299	R-WDTH	1.000	C-LGTH	5.000
		C-DIA	0.670		

REFERENCE FILE

REFERENCE INFORMATION

SREF	7.0686	50. IN.
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## BASIC LONGITUDINAL CHARACTERISTICS

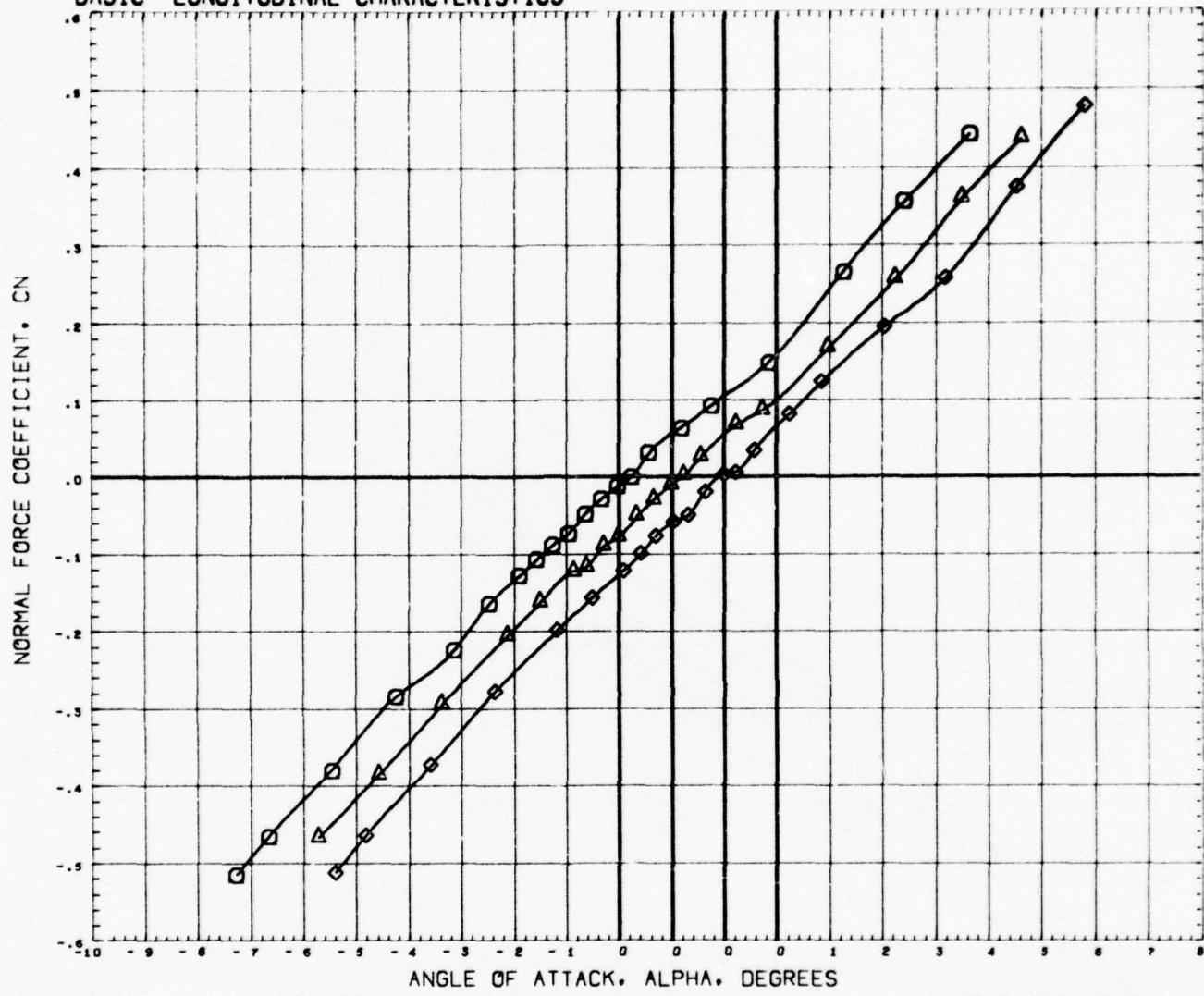


SYMBOL	MACH	PARAMETRIC VALUES		
○	0.500	PHI	0.000	M-LGTH 1.500
◇	0.801	LS-LGH	3.250	S-WDTM 0.200
△	0.950	R-WDTM	1.000	C-LGTH 6.500
□	1.002	C-DIA	0.500	

REFERENCE FILE

REFERENCE INFORMATION		
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BREF	3.0000	INCHES
XWRF	0.0000	INCHES
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ZWRF	0.0000	INCHES
SCALE	0.0000	NONE

### BASIC LONGITUDINAL CHARACTERISTICS



SYMBOL      MACH      PARAMETRIC VALUES

○	1.101	PHI      0.000	H-LGTH      1.500
△	1.197	LS-LGH      3.250	S-WDTH      0.200
◊	1.297	R-WDTH      1.000	C-LGTH      6.500
		C-DIA      0.500	

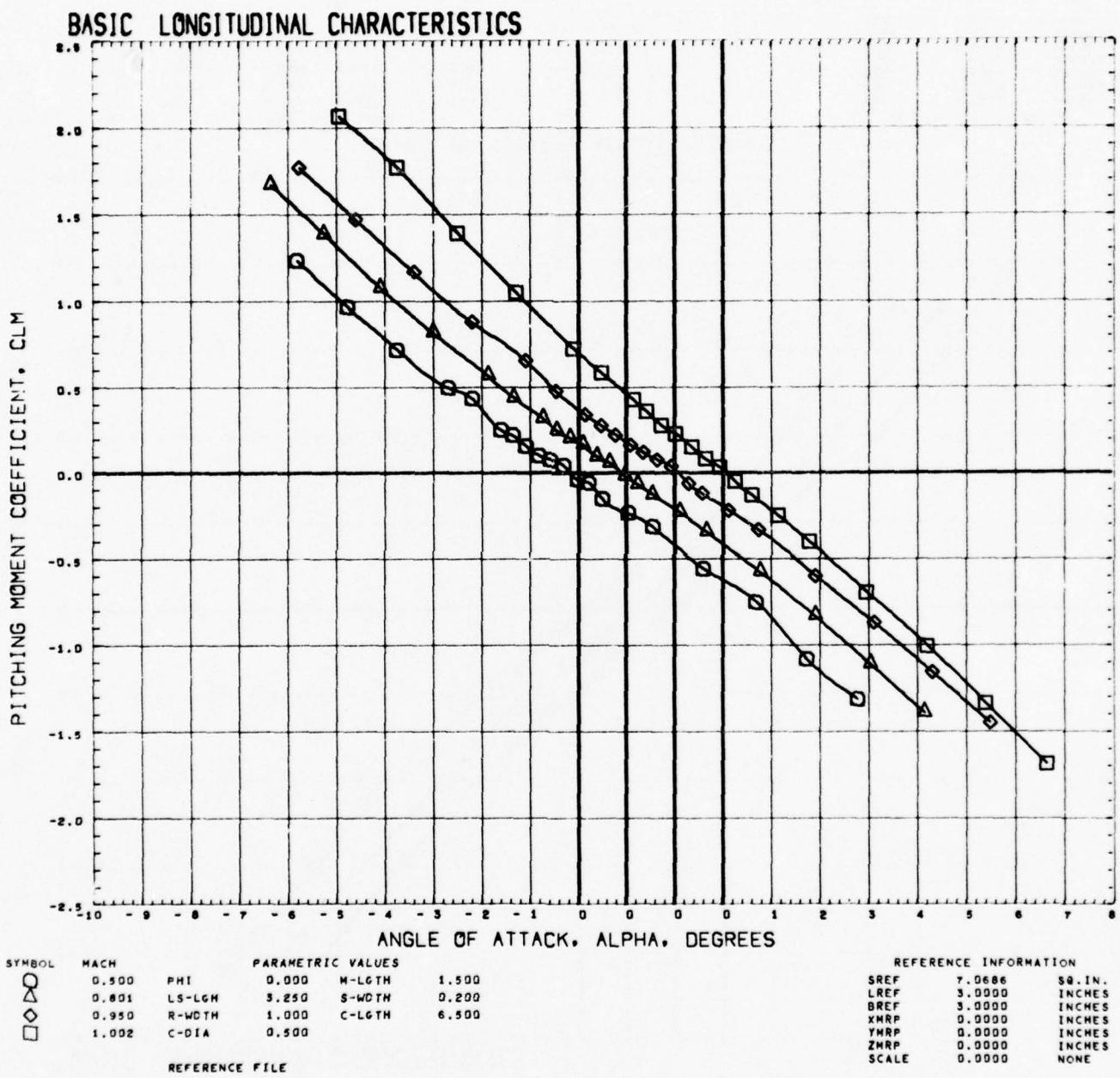
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REFERENCE FILE

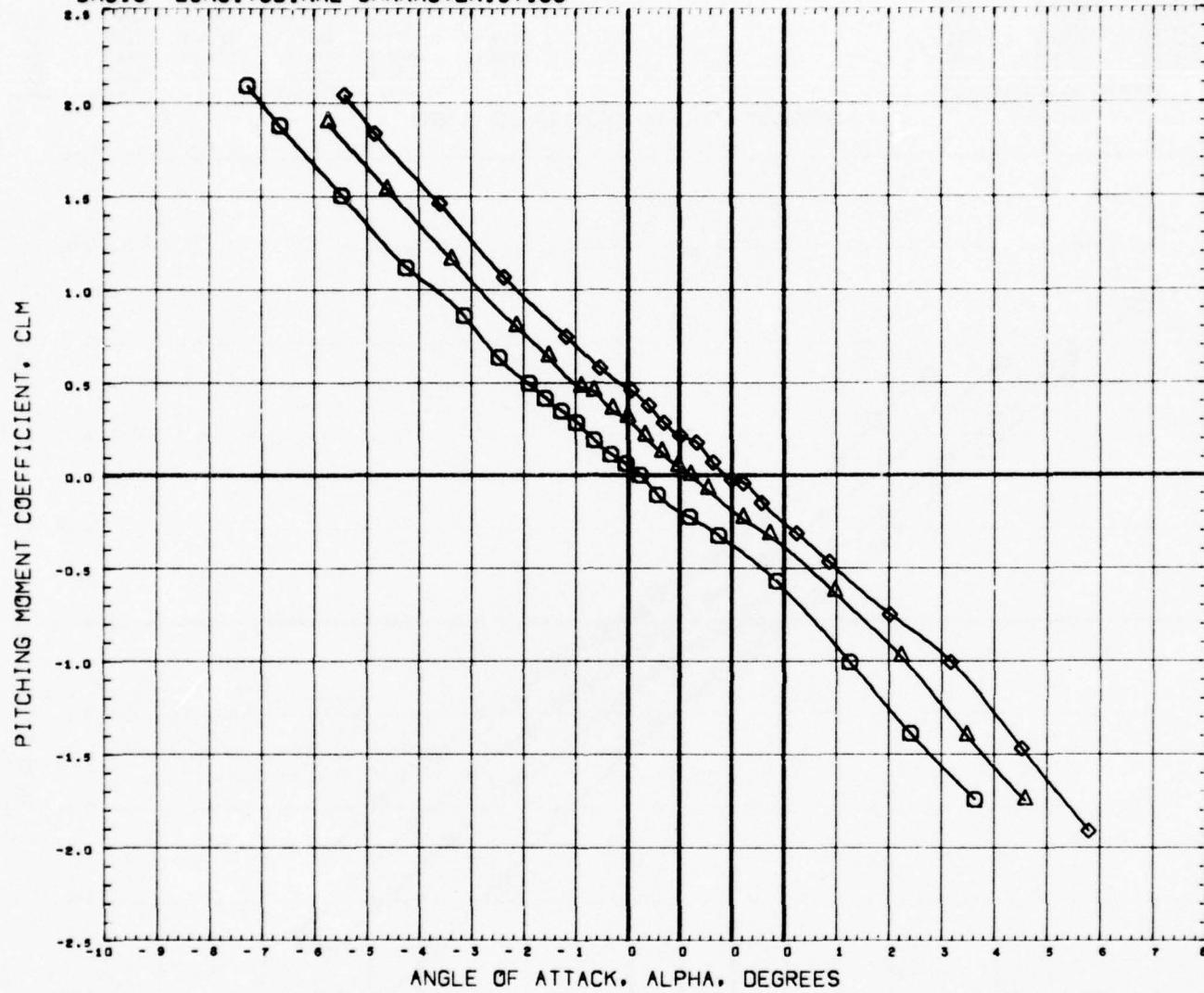
AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL.N1R2C4 (RTAR21) 10 MAR 72

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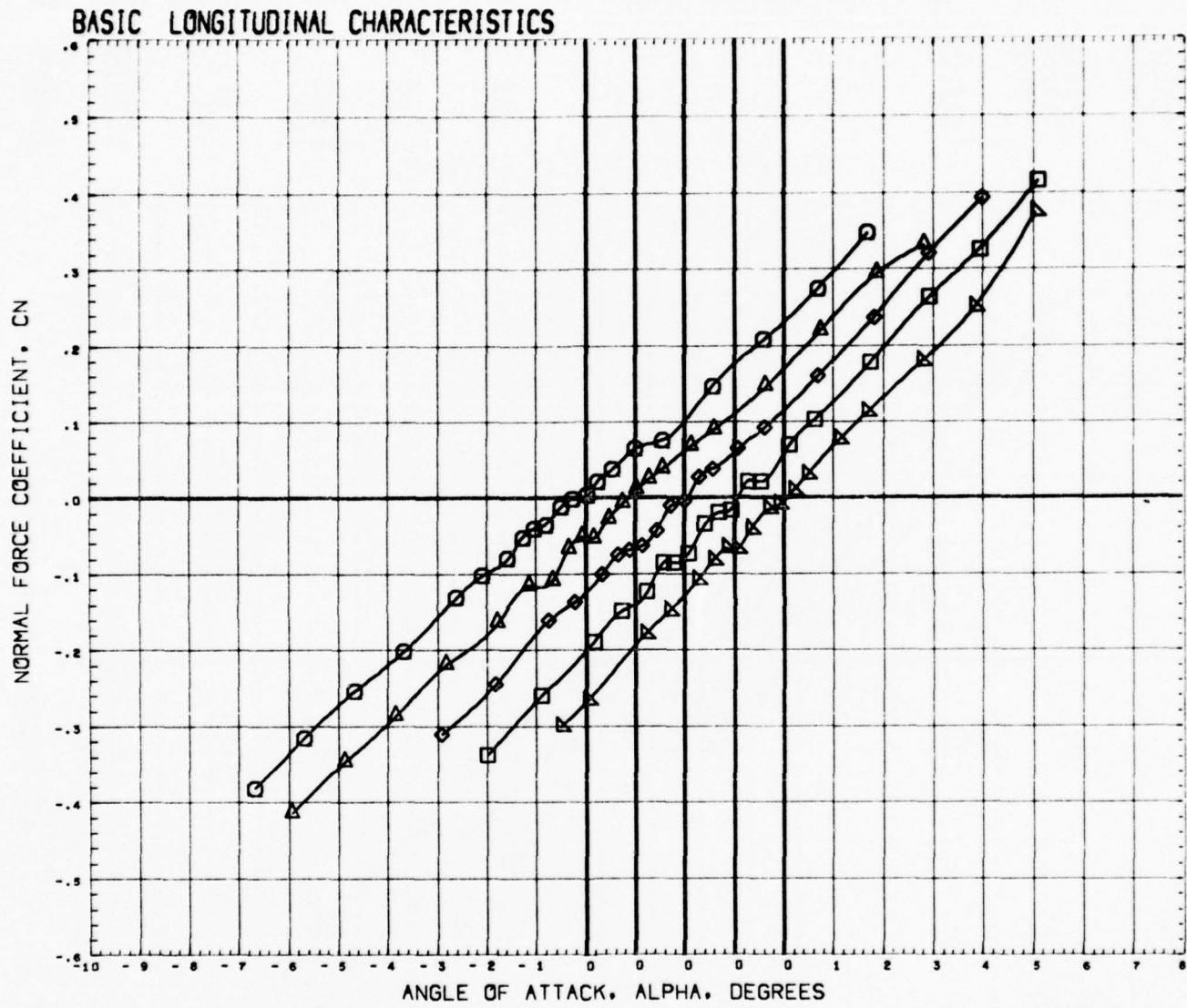
AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL, NIR2C4 (RTAR21) 10 MAR 72 PAGE 99

### BASIC LONGITUDINAL CHARACTERISTICS



REFERENCE FILE

AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL.N1R2C4 (RTAR21) 10 MAR 72 PAGE 100

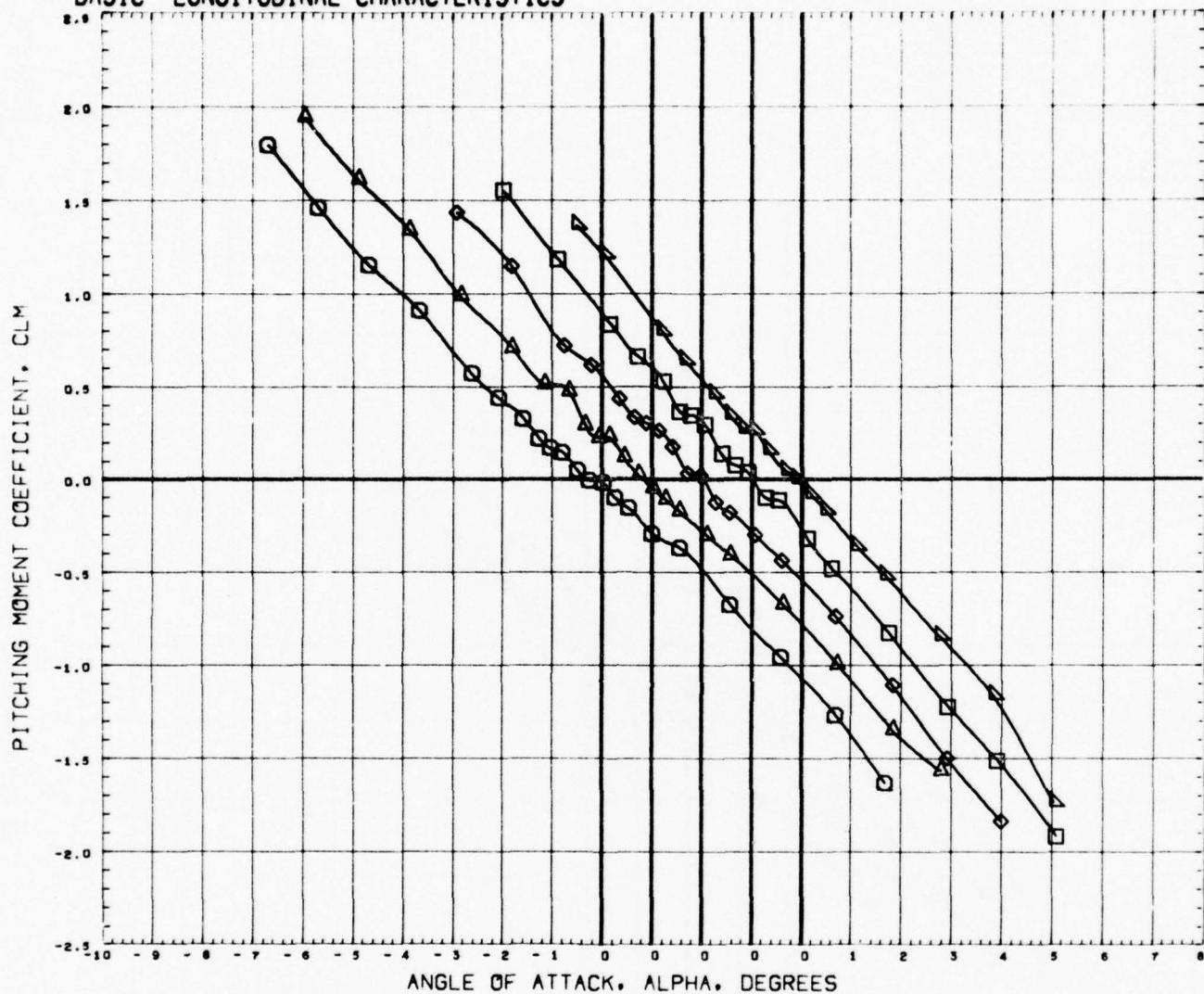


SYMBOL	MACH	PARAMETRIC VALUES
○	0.503	PHI 0.000 M-LGTH 2.250
△	0.604	LS-LGH 4.000 S-WDTH 0.200
◊	0.958	R-WDTH 1.000 C-LGTH 6.500
□	0.999	C-DIA 0.500
■	1.099	

REFERENCE FILE

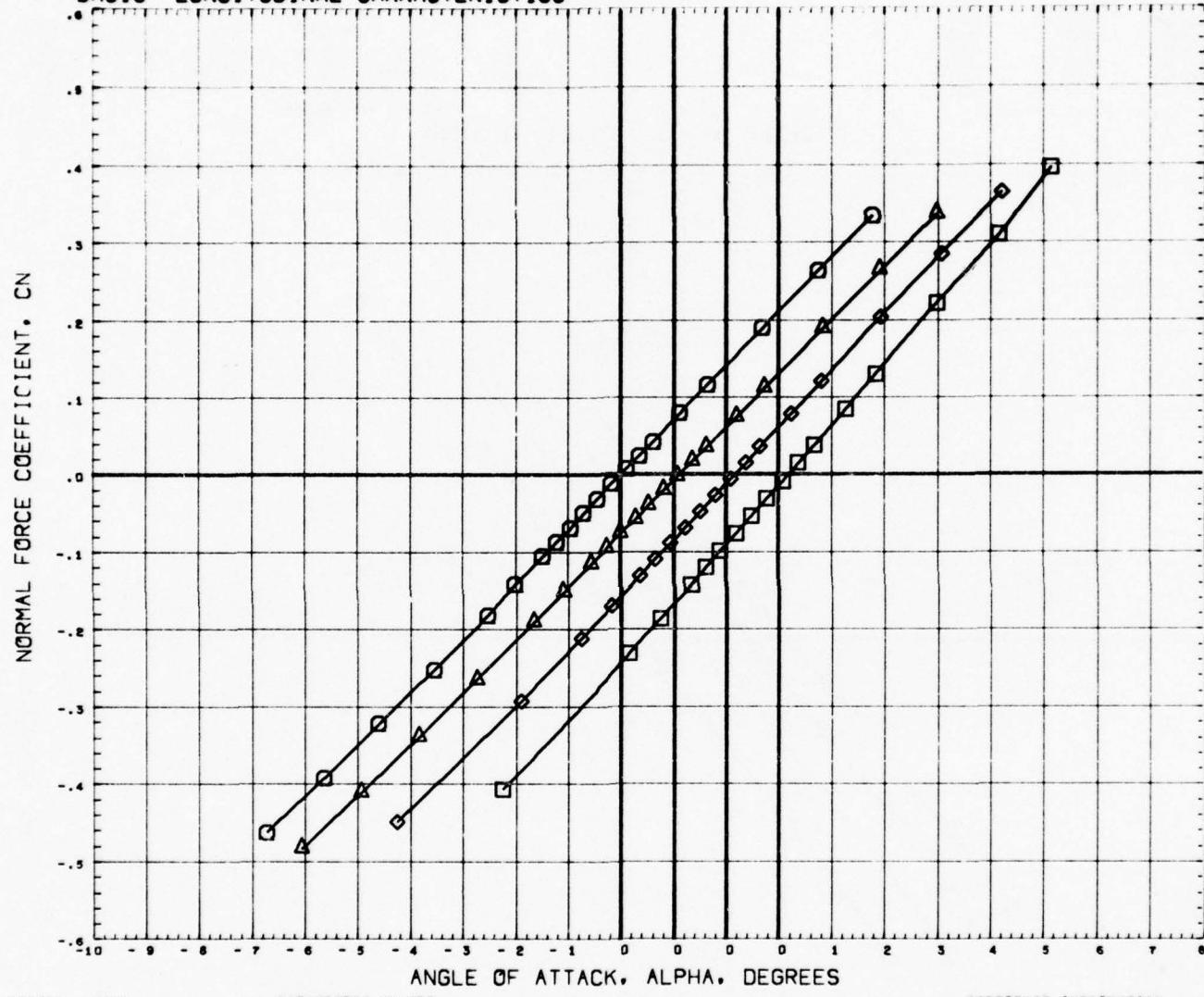
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LREF	3.0000	INCHES
BREF	3.0000	INCHES
XMRP	0.0000	INCHES
YMRP	0.0000	INCHES
ZMRP	0.0000	INCHES
SCALE	0.0000	NONE

### BASIC LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES			REFERENCE INFORMATION		
○	0.503	PHI	0.000	M-LGTH	2.250	SREF	7.0686
△	0.604	LS-LGH	4.000	S-WDTH	0.200	LREF	3.0000
◊	0.958	R-WDTH	1.000	C-LGTH	6.500	BREF	3.0000
□	0.999	C-DIA	0.500			XMRP	0.0000
	1.099					YMRP	0.0000
						ZMRP	0.0000
						SCALE	0.0000
		REFERENCE FILE					NONE

## BASIC LONGITUDINAL CHARACTERISTICS

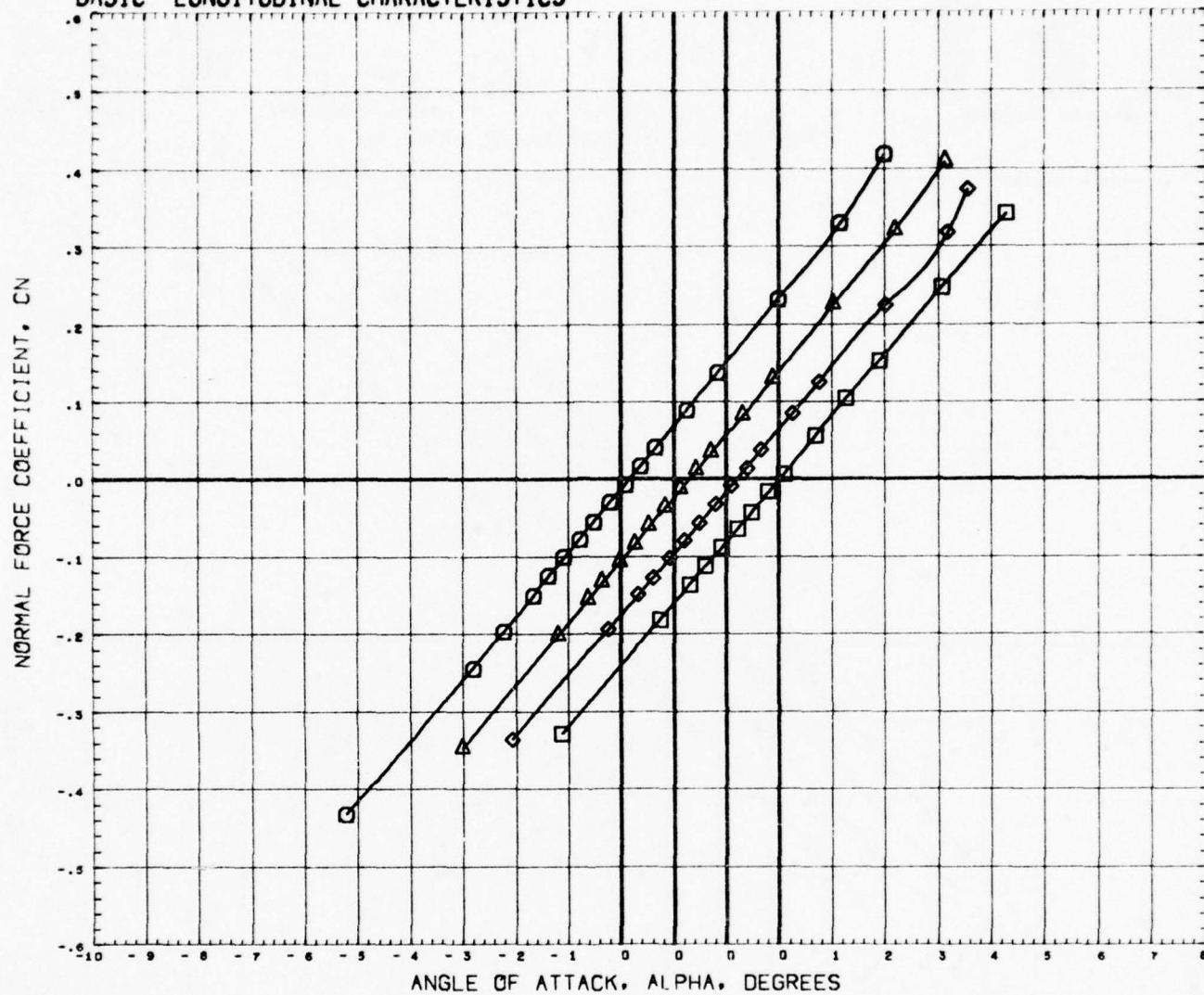


SYMBOL	MACH	PARAMETRIC VALUES		
○	0.501	PHI	0.000	M-LGTH 1.500
△	0.799	LS-LGH	3.250	S-WDTH 0.200
◊	0.948	R-WDTH	1.000	C-LGTH 5.000
□	0.999	C-DIA	0.400	

REFERENCE FILE

REFERENCE INFORMATION		
SREF	7.0686	SQ. IN.
LREF	3.0000	INCHES
BREF	3.0000	INCHES
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SCALE	0.0000	NONE

## BASIC LONGITUDINAL CHARACTERISTICS



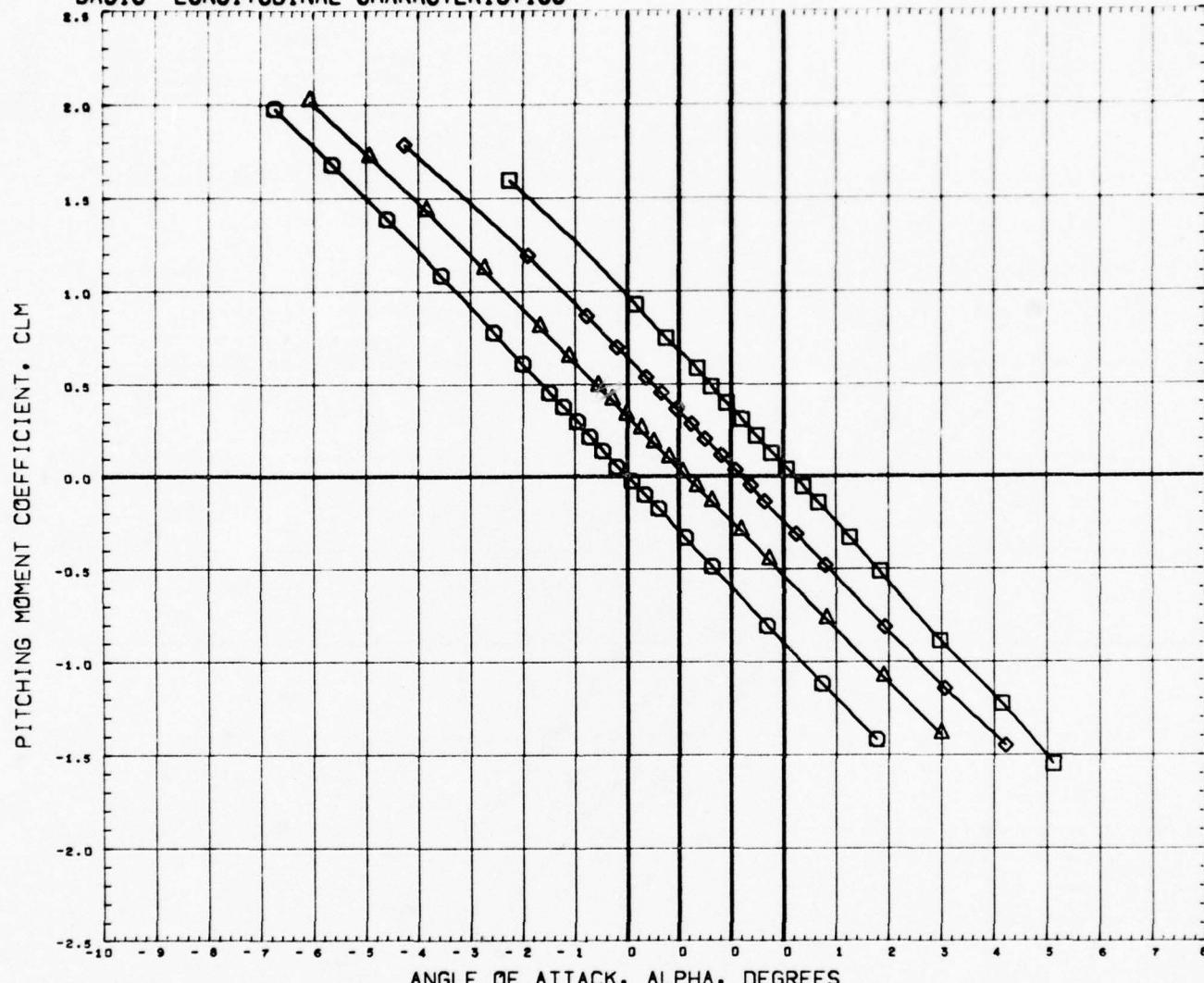
SYMBOL	MACH		PARAMETRIC VALUES	
○	1.049	PHI	0.000	H-LGTH
△	1.098	LS-LGH	3.250	S-WDTH
◊	1.197	R-WDTH	1.000	C-LGTH
□	1.296	C-DIA	0.400	

REFERENCE INFORMATION		
SREF	7.0686	SQ. IN.
SREF	3.0000	INCHES
BREF	3.0000	INCHES
XMRP	0.0000	INCHES
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ZMRP	0.0000	INCHES
SCALE	0.0000	NONE

**REFERENCE FILE**

AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL, N1R2C5 (RTAR25) 10 MAR 72 PAGE 104

### BASIC LONGITUDINAL CHARACTERISTICS

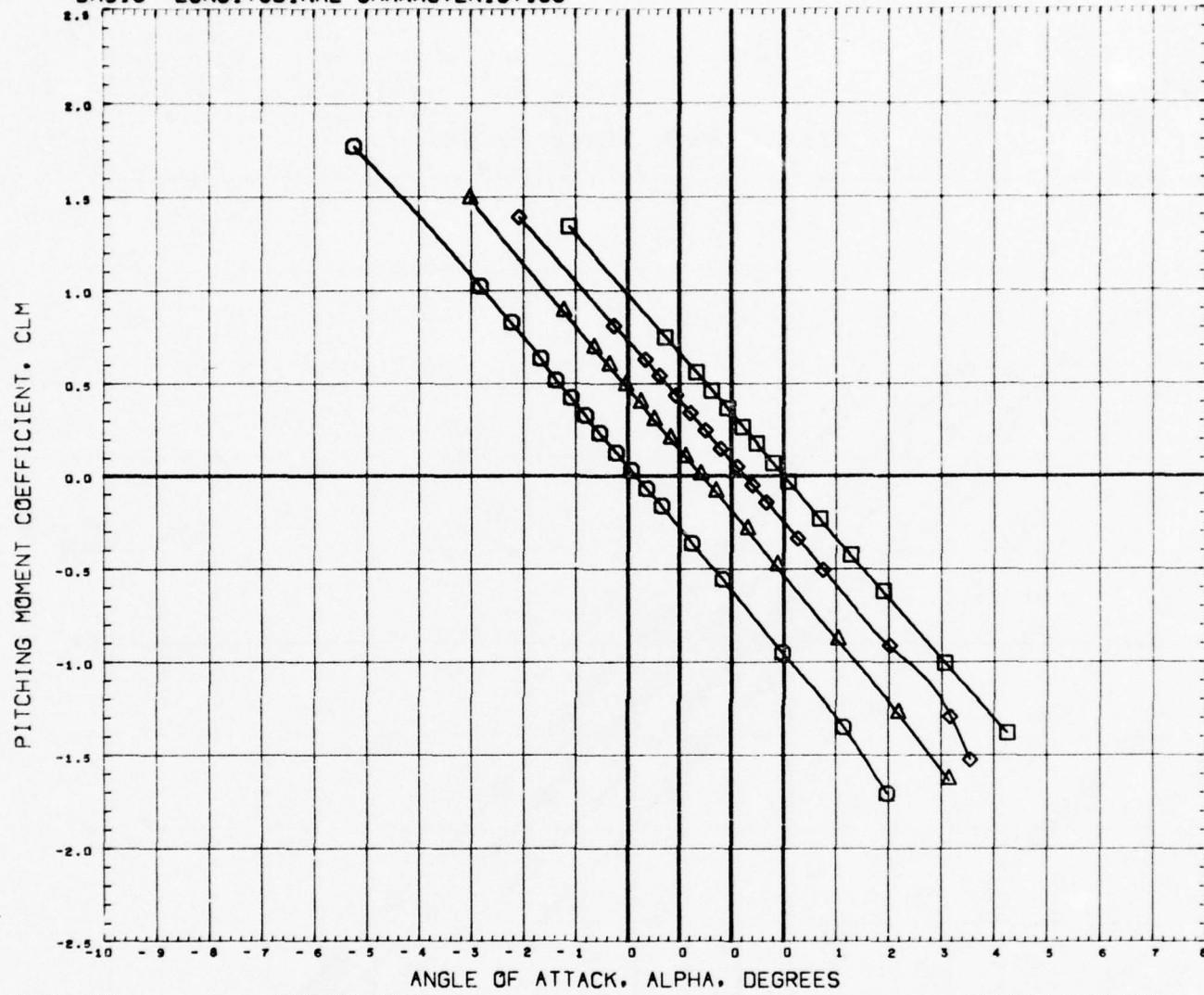


SYMBOL	MACH	PARAMETRIC VALUES		
○	0.501	PHI	0.000	M-LGTH 1.500
△	0.799	LS-LGH	3.250	S-WDTH 0.200
◊	0.948	R-WDTH	1.000	C-LGTH 5.000
□	0.999	C-DIA	0.400	

REFERENCE FILE

REFERENCE INFORMATION		
SREF	7.0686	\$Q. IN.
LREF	3.0000	INCHES
BREF	3.0000	INCHES
XMRP	0.0000	INCHES
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SCALE	0.0000	NONE

### BASIC LONGITUDINAL CHARACTERISTICS

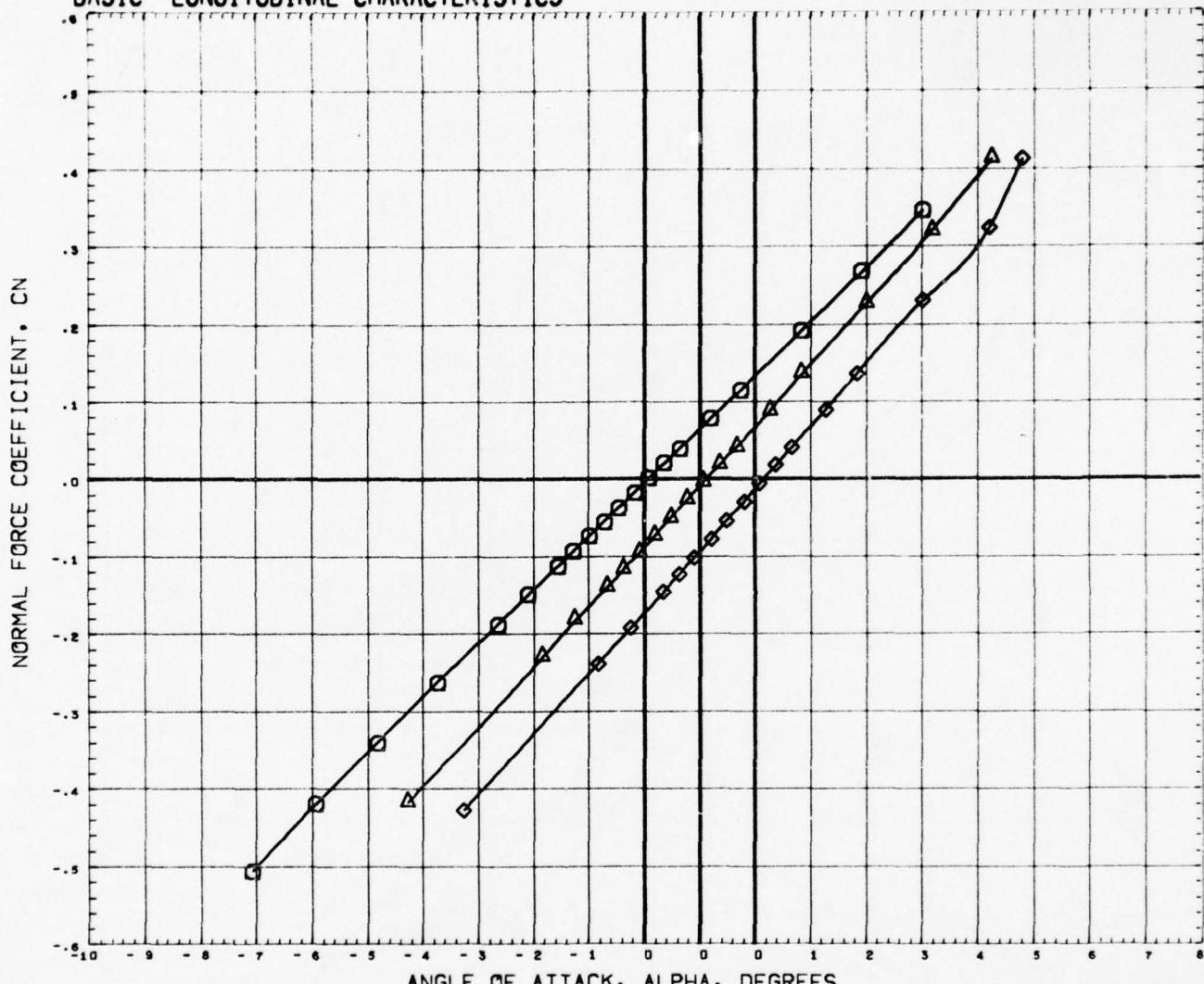


SYMBOL	MACH	PARAMETRIC VALUES		
○	1.049	PHI	0.000	M-LGTH 1.500
△	1.098	LS-LGTH	3.250	S-WDTH 0.200
◊	1.197	R-WDTH	1.000	C-LGTH 5.000
□	1.296	C-DIA	0.400	

REFERENCE FILE

REFERENCE INFORMATION		
SREF	7.0686	SQ. IN.
LREF	3.0000	INCHES
BREF	3.0000	INCHES
XMRP	0.0000	INCHES
YMRP	0.0000	INCHES
ZMRP	0.0000	INCHES
SCALE	0.0000	NONE

### BASIC LONGITUDINAL CHARACTERISTICS



SYMBOL      MACH      PARAMETRIC VALUES

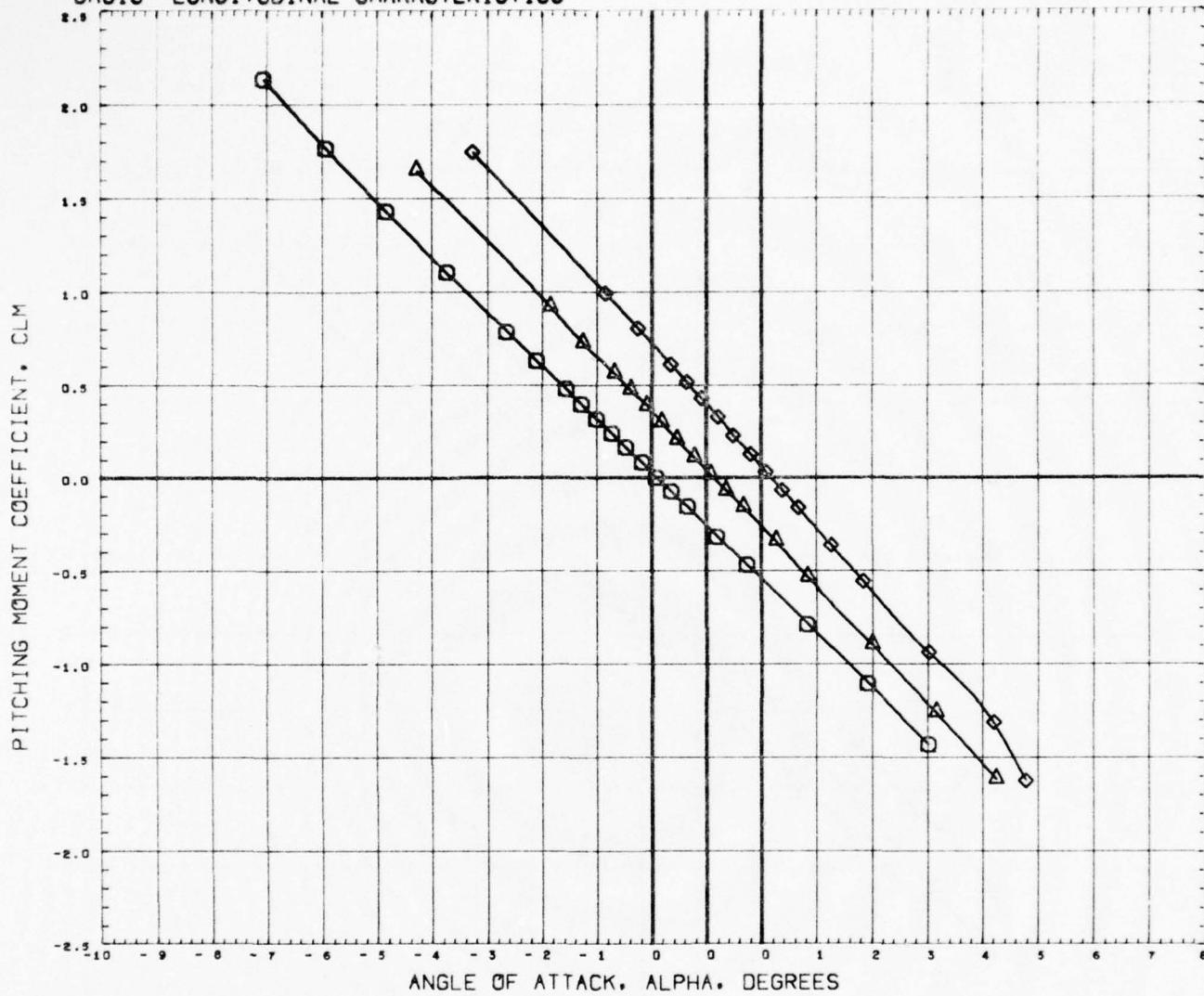
○	0.800	PHI	22.500	H-LGTH	1.500
△	1.001	LS-LGH	3.250	S-WDTH	0.200
◊	1.197	R-WDTH	1.000	C-LGTH	5.000
		C-DIA	0.400		

REFERENCE INFORMATION

SREF	7.0686	SQ. IN.
LREF	3.0000	INCHES
BREF	3.0000	INCHES
XMRP	0.0000	INCHES
YMRP	0.0000	INCHES
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SCALE	0.0000	NONE

REFERENCE FILE

### BASIC LONGITUDINAL CHARACTERISTICS



SYMBOL      MACH      PARAMETRIC VALUES

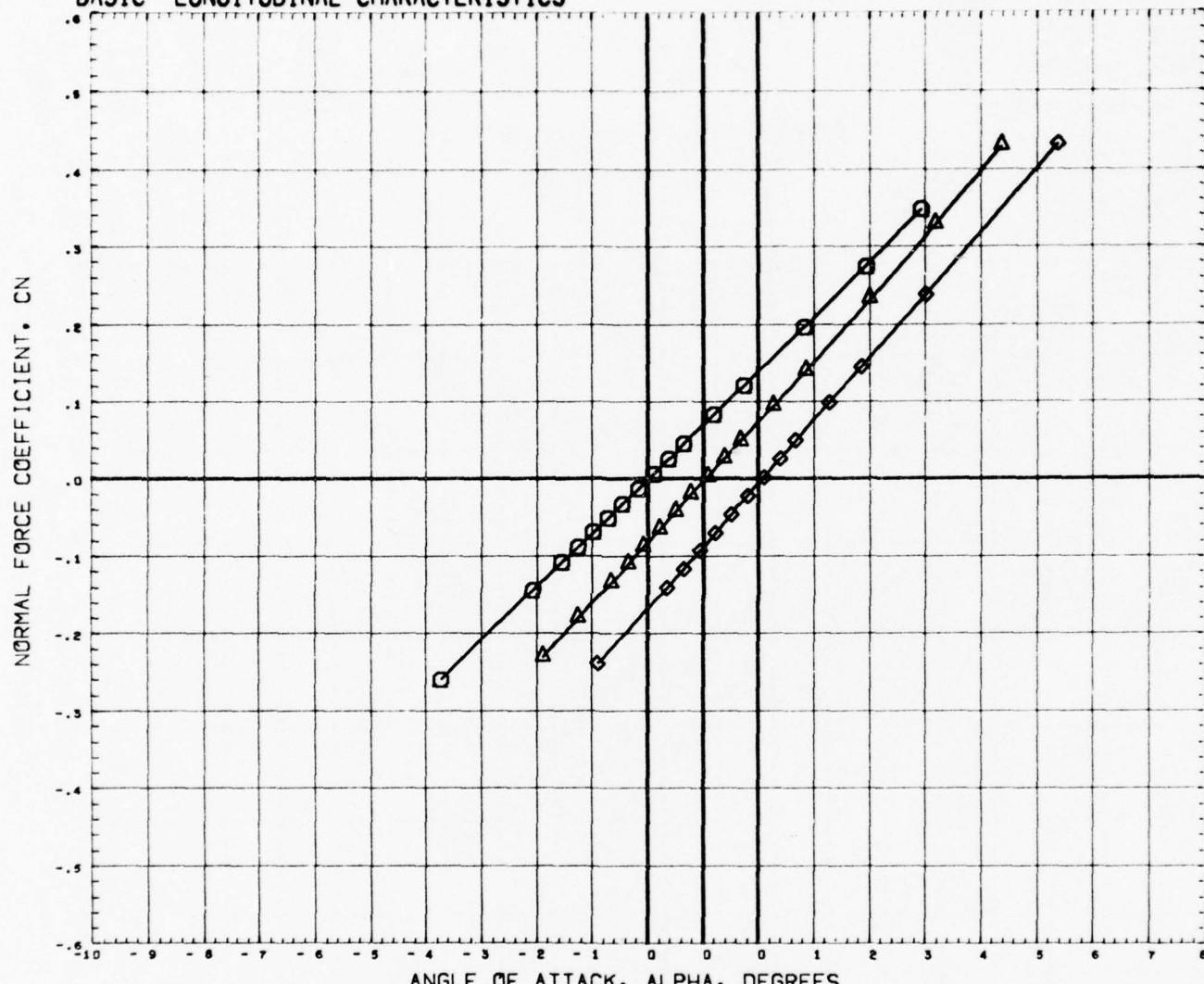
Symbol	Mach	Phi	L-S-LGH	S-WDTH	C-LGTH	C-DIA
○	0.800	22.500	H-LGTH	1.500		
△	1.001	3.250	S-WDTH	0.200		
◇	1.197	1.000	C-LGTH	5.000		
					0.400	

REFERENCE INFORMATION

Symbol	Value	Unit
SREF	7.0686	SQ. IN.
LREF	3.0000	INCHES
BREF	3.0000	INCHES
XMRP	0.0000	INCHES
YMRP	0.0000	INCHES
ZMRP	0.0000	INCHES
SCALE	0.0000	NONE

REFERENCE FILE

## BASIC LONGITUDINAL CHARACTERISTICS

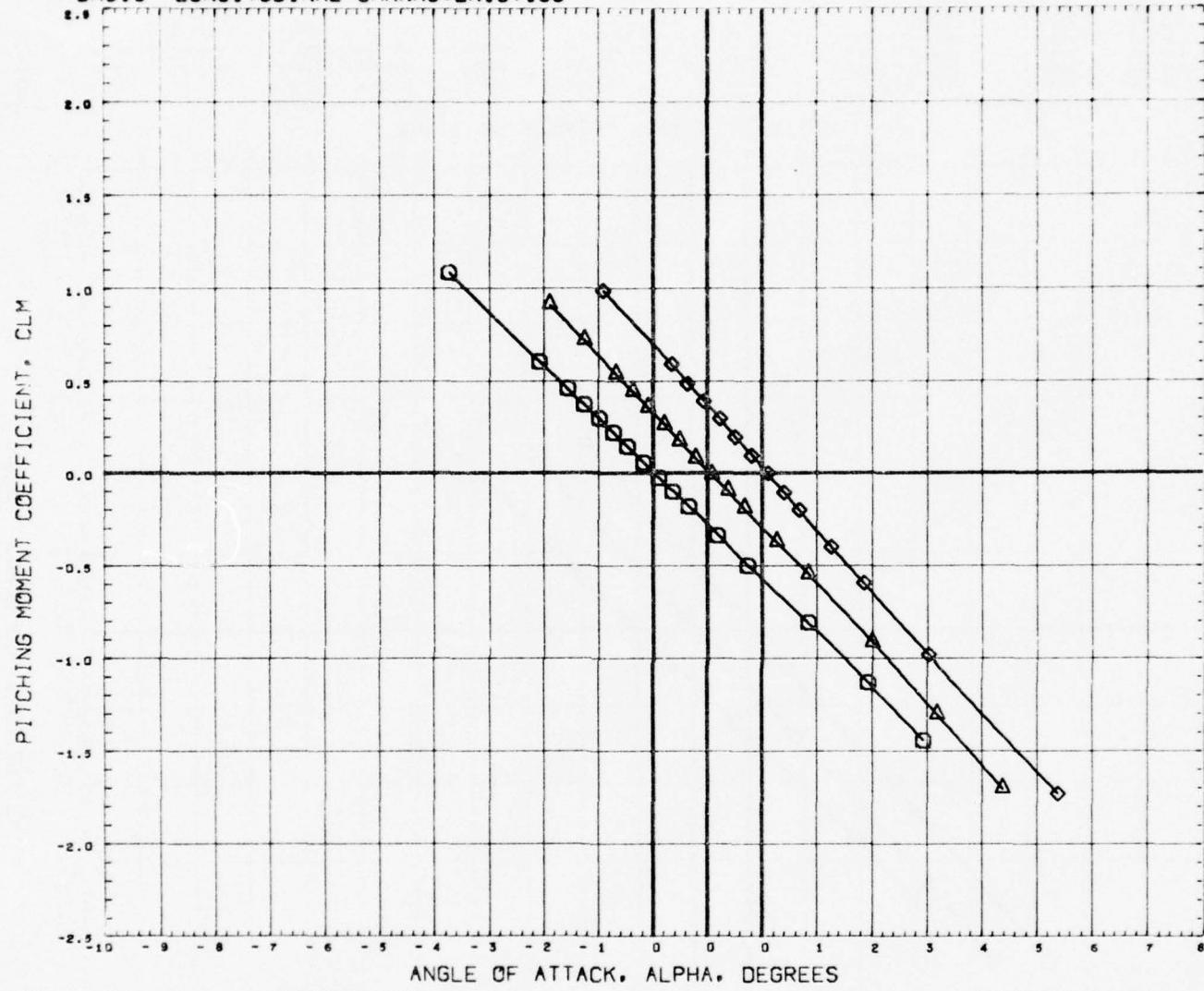


SYMBOL	MACH	PARAMETRIC VALUES		
○	0.800	PHI	45.000	M-LGTH 1.500
△	0.999	LS-LGH	3.250	S-WDTM 0.200
◊	1.198	R-WDTM	1.000	C-LGTH 5.000
		C-DIA	0.400	

REFERENCE INFORMATION		
SREF	7.0686	SQ. IN.
LREF	3.0000	INCHES
BREF	3.0000	INCHES
XMRP	0.0000	INCHES
YMRP	0.0000	INCHES
ZMRP	0.0000	INCHES
SCALE	0.0000	NONE

REFERENCE FILE

## BASIC LONGITUDINAL CHARACTERISTICS



SYMBOL      MACH      PARAMETRIC VALUES

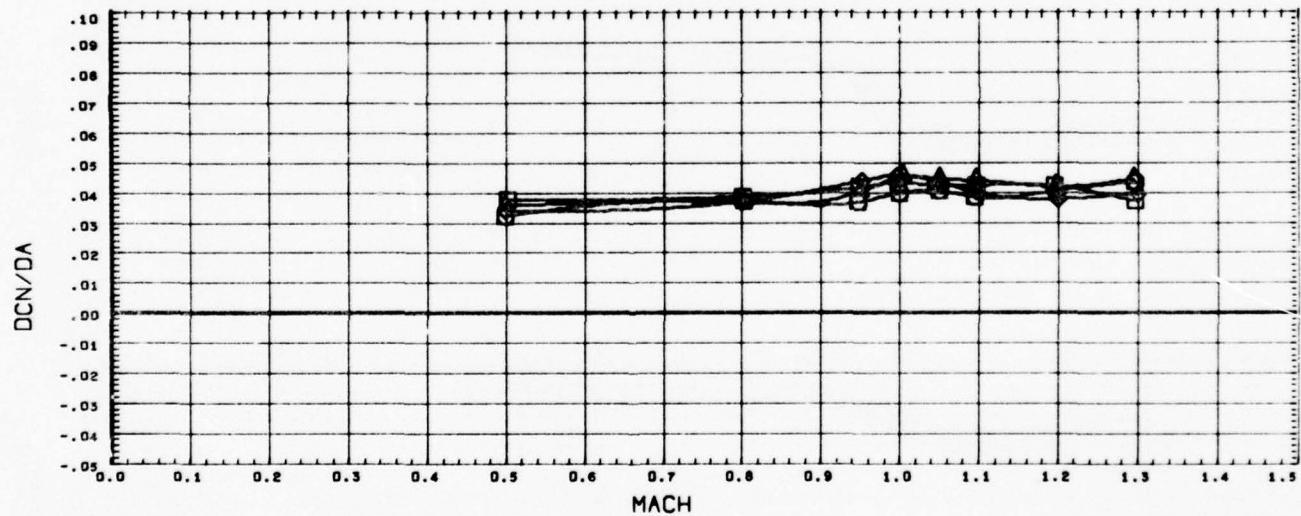
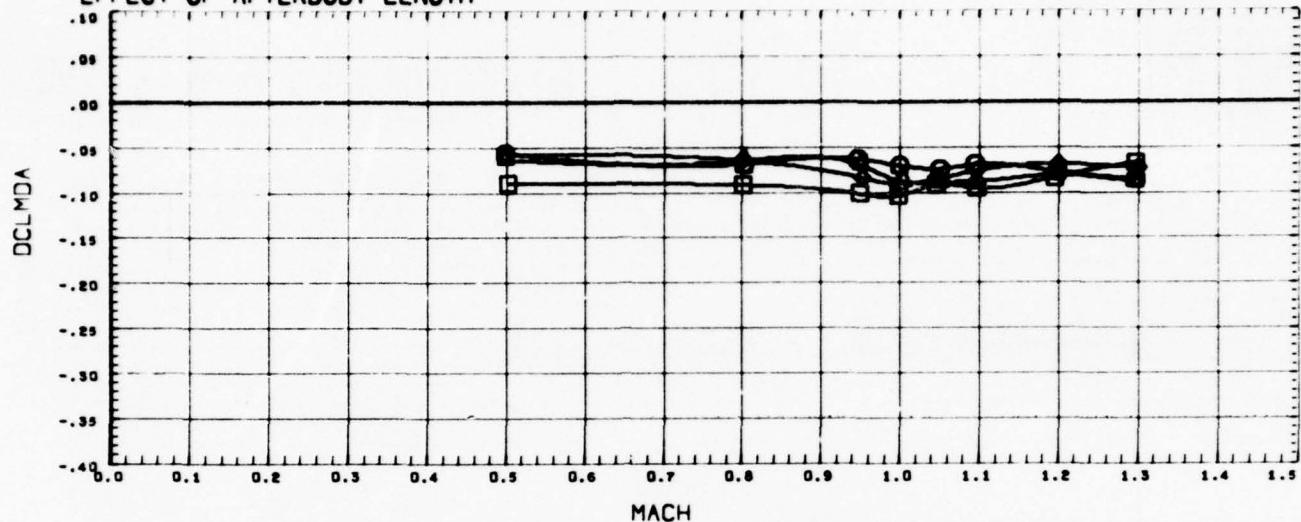
○	0.800	PHI	45.000	M-LGTH	1.500
○	0.999	LS-LGH	3.250	S-WDTH	0.200
◇	1.198	R-WDTH	1.000	C-LGTH	5.000
		C-DIA	0.400		

REFERENCE INFORMATION

SREF	7.0686	SQ. IN.
LREF	3.0000	INCHES
BREF	3.0000	INCHES
XMRP	0.0000	INCHES
YMRP	0.0000	INCHES
ZMRP	0.0000	INCHES
SCALE	0.0000	NONE

REFERENCE FILE

### EFFECT OF AFTERBODY LENGTH

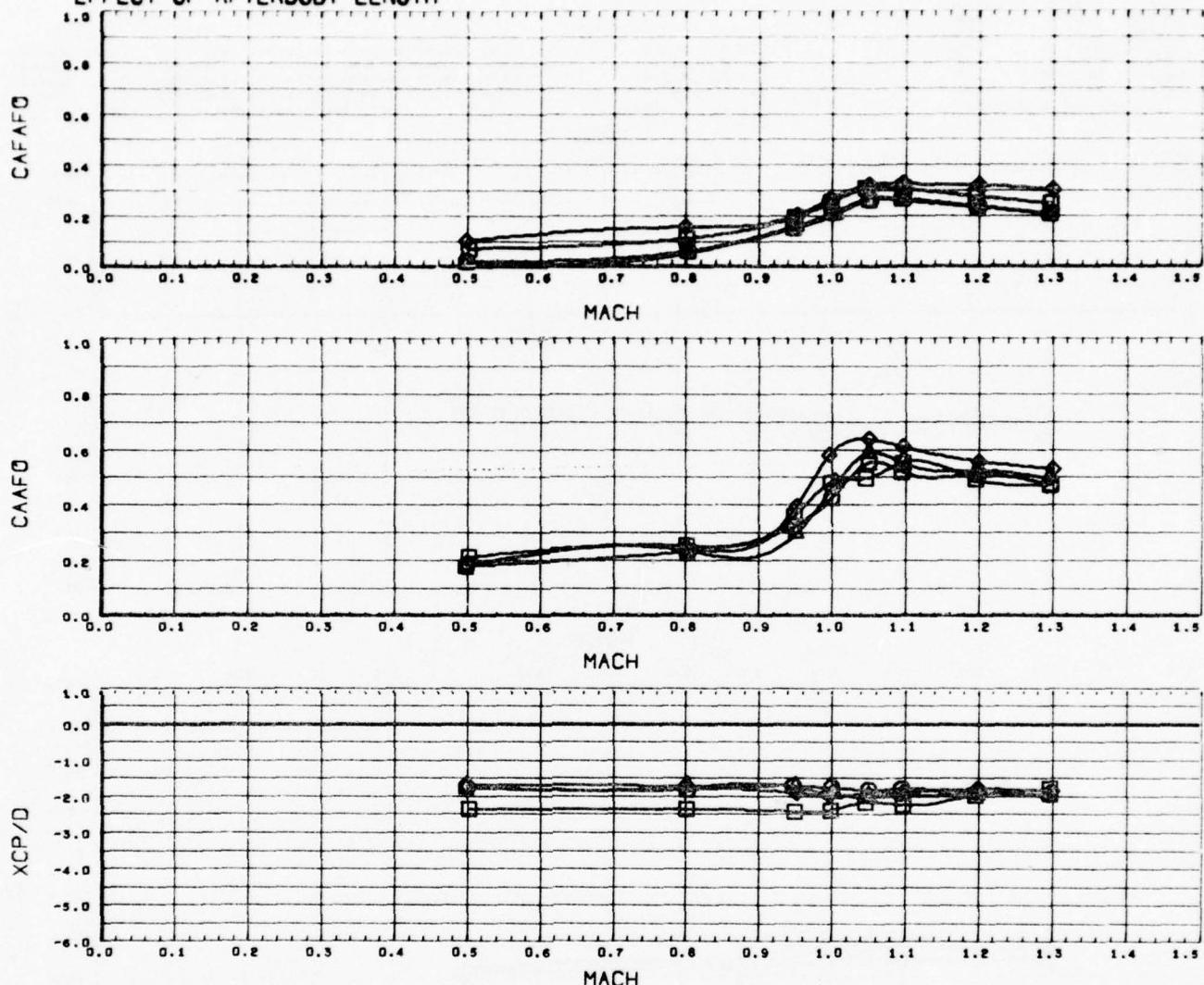


DATA SET SYMBOL CONFIGURATION DESCRIPTION  
 (RTAM01) AEDC TEST PWT-4T2D1 CONE-CYLINDER, NIM1  
 (RTAM02) AEDC TEST PWT-4T2D1 CONE-CYLINDER, NIM2  
 (RTAM03) AEDC TEST PWT-4T2D1 CONE-CYLINDER, NIM3  
 (RTAM04) AEDC TEST PWT-4T2D1 CONE-CYLINDER, NIM4

PHI M-LGTH  
 0.000 2.250  
 0.000 1.500  
 0.000 0.750  
 0.000 5.750

REFERENCE INFORMATION  
 SREF 7.0686 \$0. IN.  
 LREF 3.0000 INCHES  
 BREF 3.0000 INCHES  
 XHRF 0.0000 INCHES  
 YHRF 0.0000 INCHES  
 ZHRF 0.0000 INCHES  
 SCALE 0.0000 NONE

### EFFECT OF AFTERBODY LENGTH



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(BTAM01)	○	AEDC TEST PWT-4T201 CONE-CYLINDER, N1M1
(BTAM02)	■	AEDC TEST PWT-4T201 CONE-CYLINDER, N1M2
(BTAM03)	◇	AEDC TEST PWT-4T201 CONE-CYLINDER, N1M3
(BTAM04)	□	AEDC TEST PWT-4T201 CONE-CYLINDER, N1M4

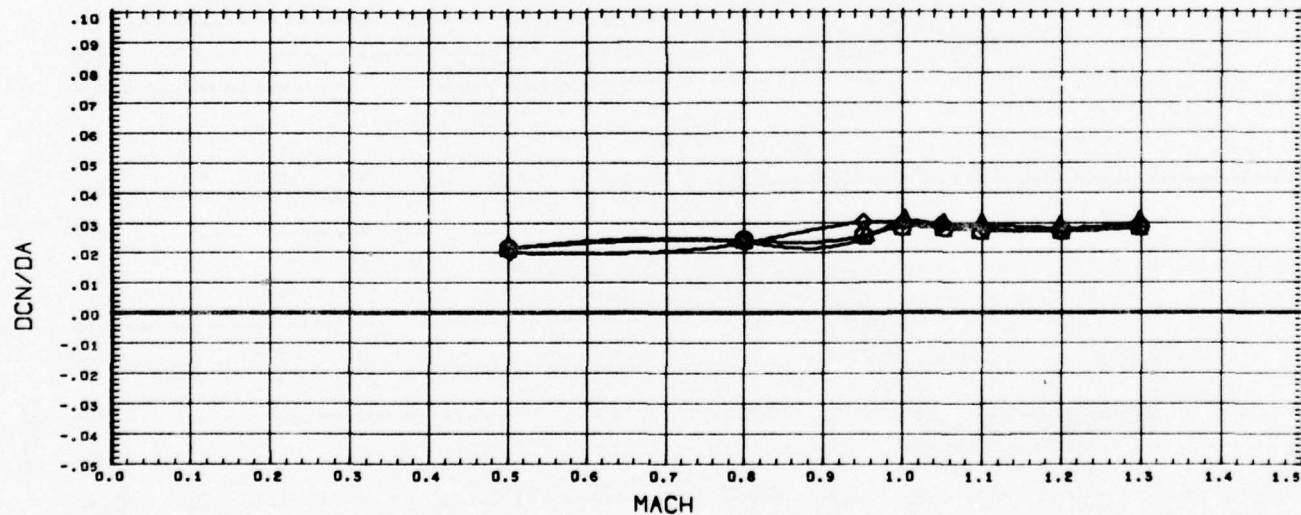
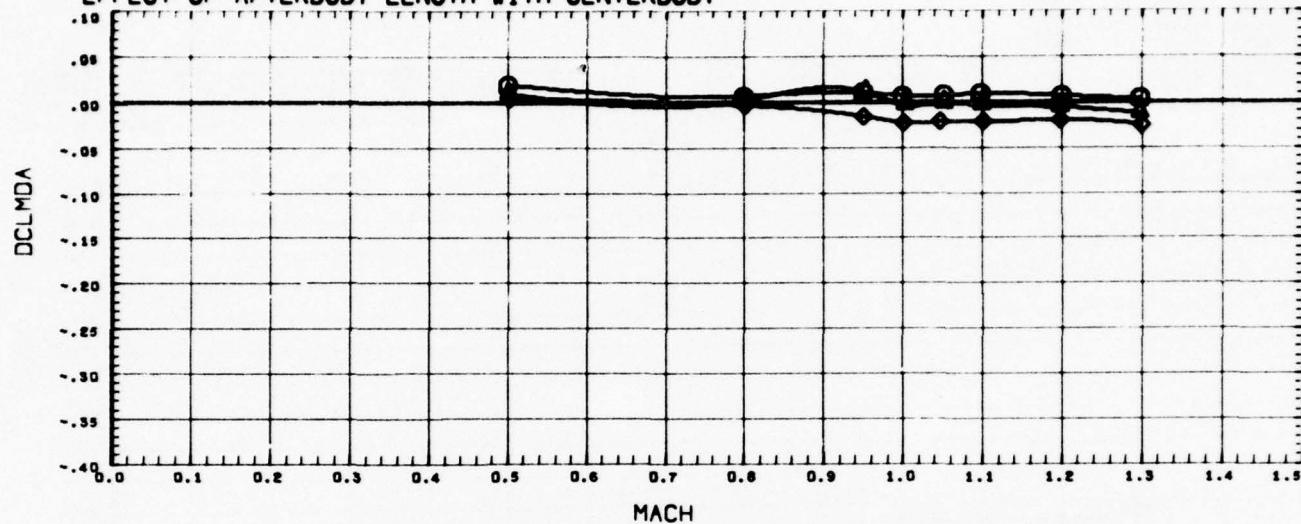
PHI M-LGTH

0.000	2.240
0.000	1.500
0.000	0.750
0.000	5.750

REFERENCE INFORMATION

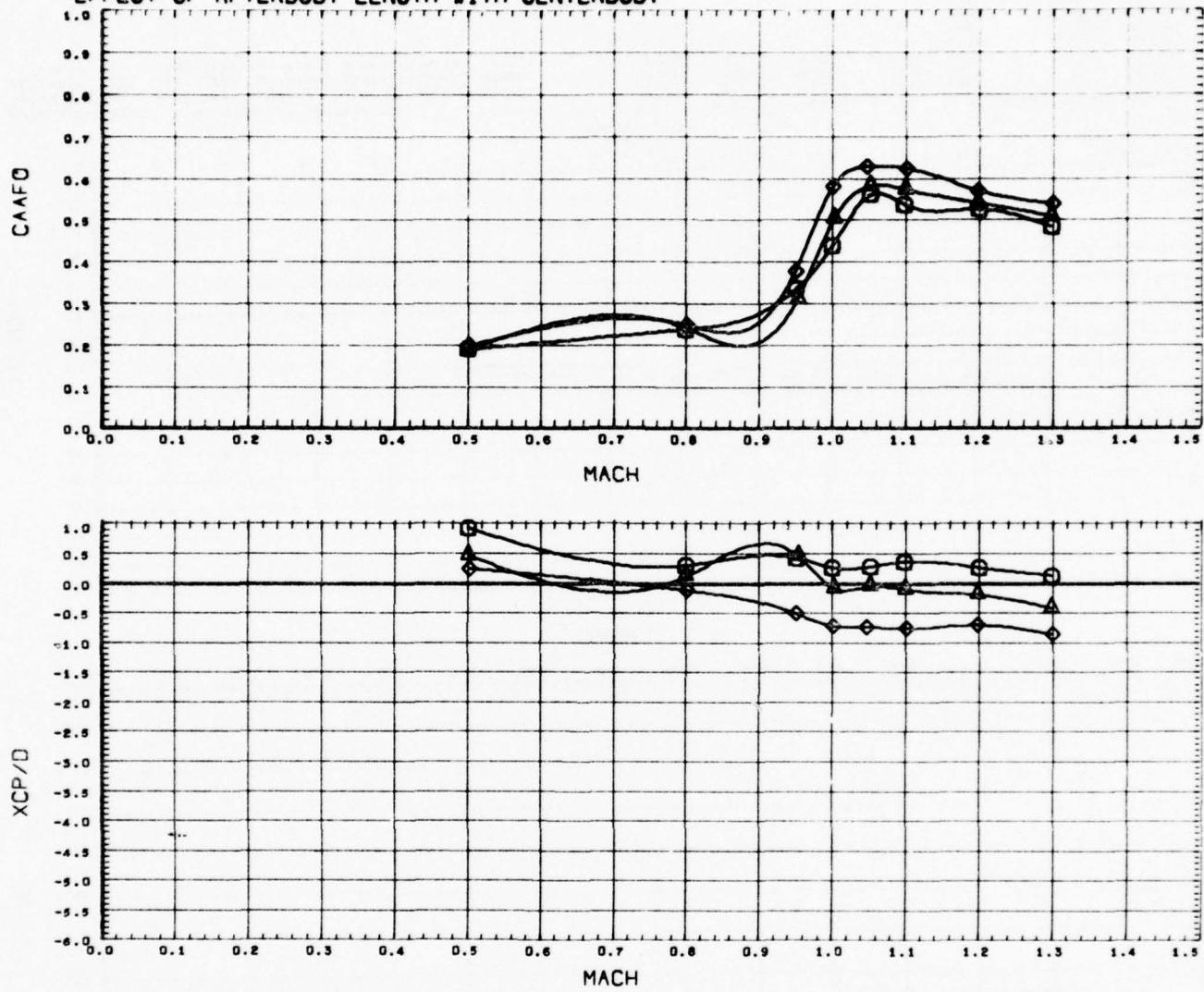
SREF	7.0686	SQ. IN.
LREF	3.0000	INCHES
BREF	3.0000	INCHES
XMRP	0.0000	INCHES
YMRP	0.0000	INCHES
ZMRP	0.0000	INCHES
SCALE	0.0000	NONE

### EFFECT OF AFTERBODY LENGTH WITH CENTERBODY



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	M-LGTH	C-LGTH	C-DIA	REFERENCE	INFORMATION
(RTAM05)	AEDC TEST PWT-4T201 CONE-CYLINDER, NIM1C1	0.000	2.240	5.000	0.400	SREF	7.0686 SQ.IN.
(RTAM06)	AEDC TEST PWT-4T201 CONE-CYLINDER, NIM2C1	0.000	1.500	5.000	0.400	LREF	3.0000 INCHES
(RTAM07)	AEDC TEST PWT-4T201 CONE-CYLINDER, NIM3C1	0.000	0.750	5.000	0.400	BREF	3.0000 INCHES
						XMRP	0.0000 INCHES
						YMRP	0.0000 INCHES
						ZMRP	0.0000 INCHES
						SCALE	0.0000 NONE

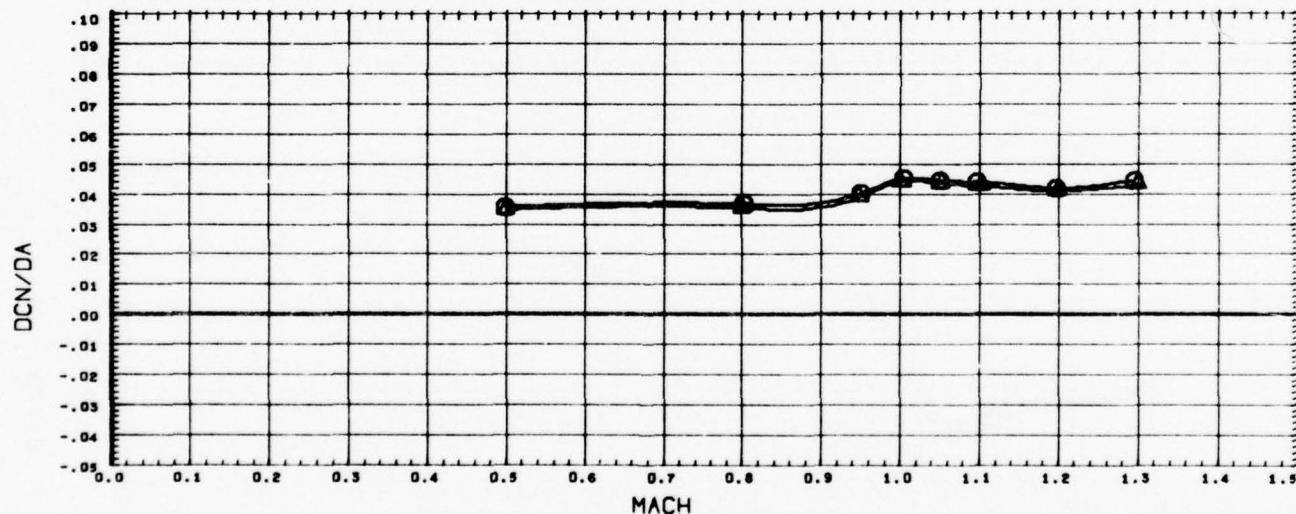
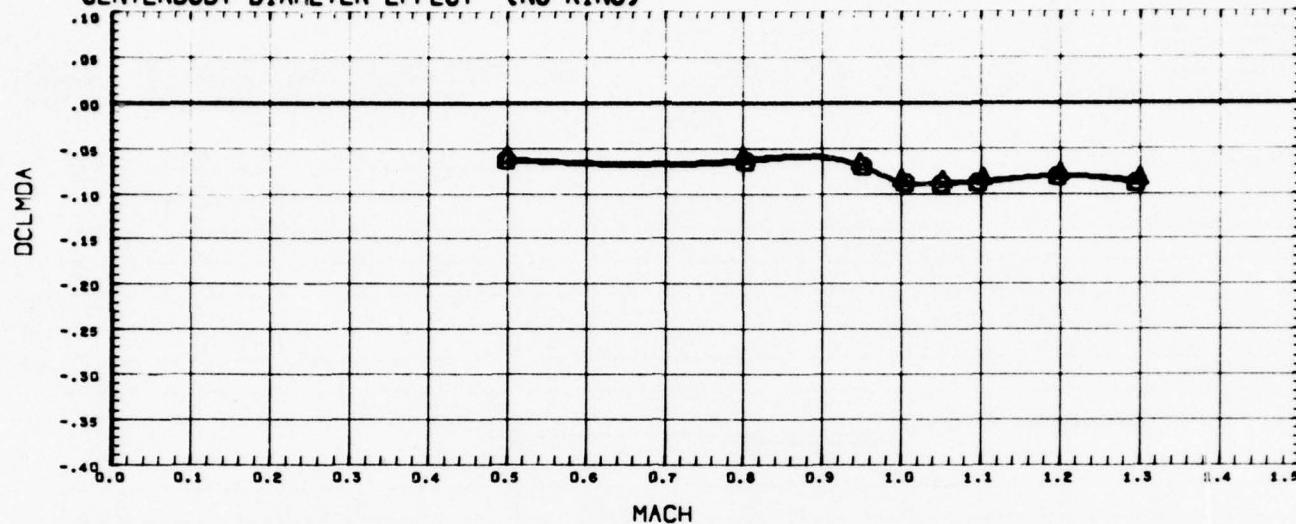
### EFFECT OF AFTERBODY LENGTH WITH CENTERBODY



DATA SET SYMBOL CONFIGURATION DESCRIPTION  
 (BTAM05) AEDC TEST PWT-4T201 CONE-CYLINDER, N1M1C1  
 (BTAM06) AEDC TEST PWT-4T201 CONE-CYLINDER, N1M2C1  
 (BTAM07) AEDC TEST PWT-4T201 CONE-CYLINDER, N1M3C1

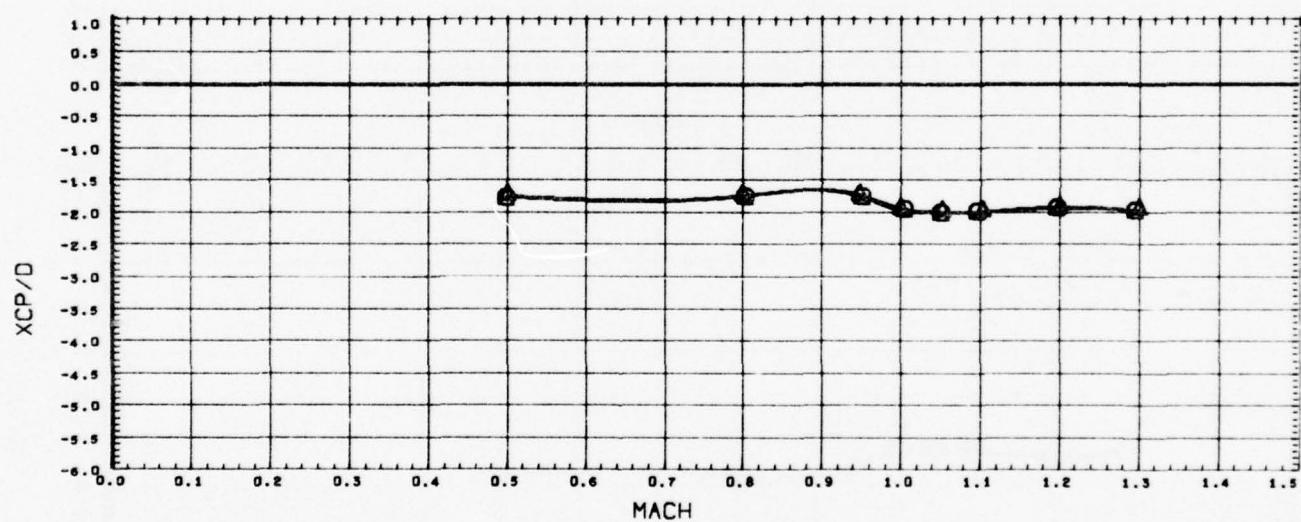
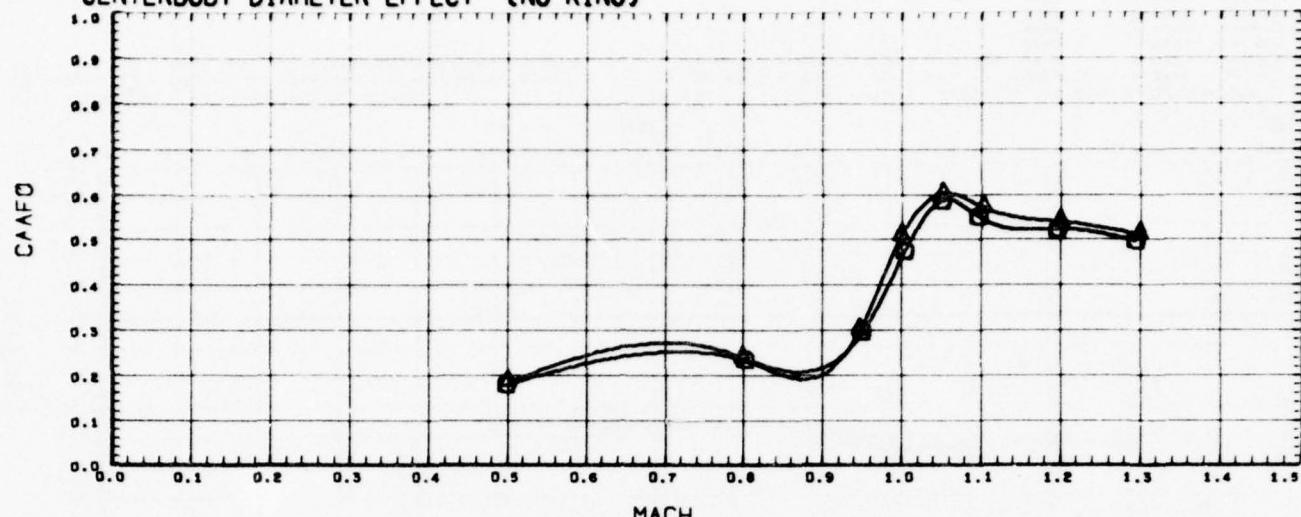
PHI	M-LGTH	C-LGTH	C-DIA	REFERENCE INFORMATION
0.000	2.250	5.000	0.400	SREF 7.0686 SQ. IN.
0.000	1.500	5.000	0.400	LREF 3.0000 INCHES
0.000	0.750	5.000	0.400	BREF 3.0000 INCHES
				XNRP 0.0000 INCHES
				YNRP 0.0000 INCHES
				ZNRP 0.0000 INCHES
				SCALE 0.0000 NONE

CENTERBODY DIAMETER EFFECT (NO RING)



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	M-LGTH	C-LGTH	C-DIA	REFERENCE INFORMATION
(RTAM02)	AEDC TEST PWT-4T201 CONE-CYLINDER, N1M2	0.000	1.500			SREF 7.0686 SQ.IN.
(RTAH12)	AEDC TEST PWT-4T201 CONE-CYLINDER, N1M2C5	0.000	1.500	5.000	0.400	LREF 3.0000 INCHES
					BREF 3.0000 INCHES	
					XMRP 0.0000 INCHES	
					YMRP 0.0000 INCHES	
					ZMRP 0.0000 INCHES	
					SCALE 0.0000 NONE	

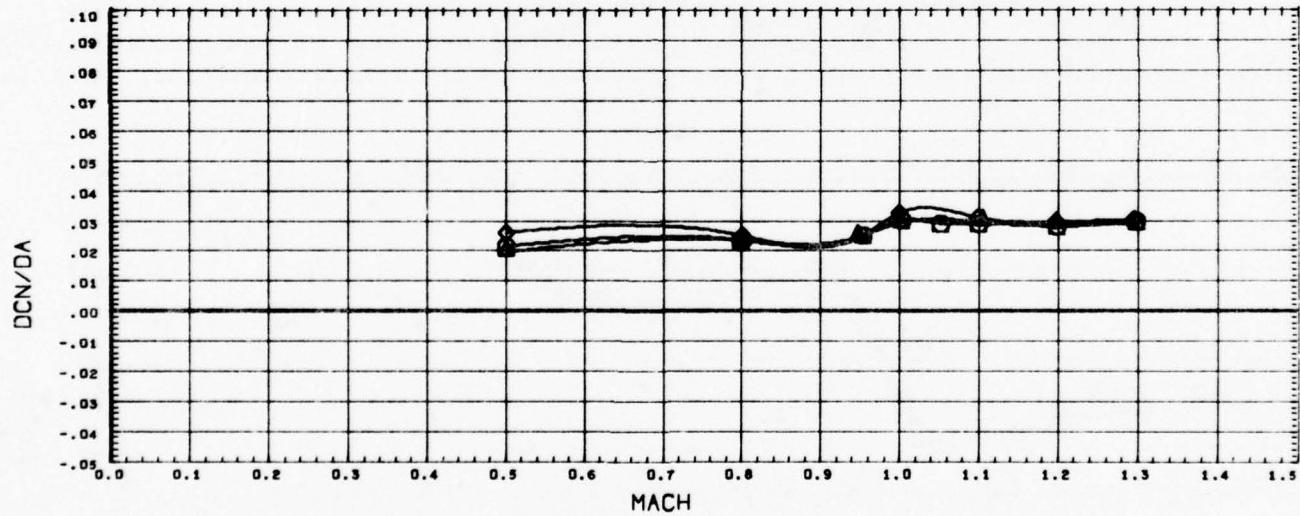
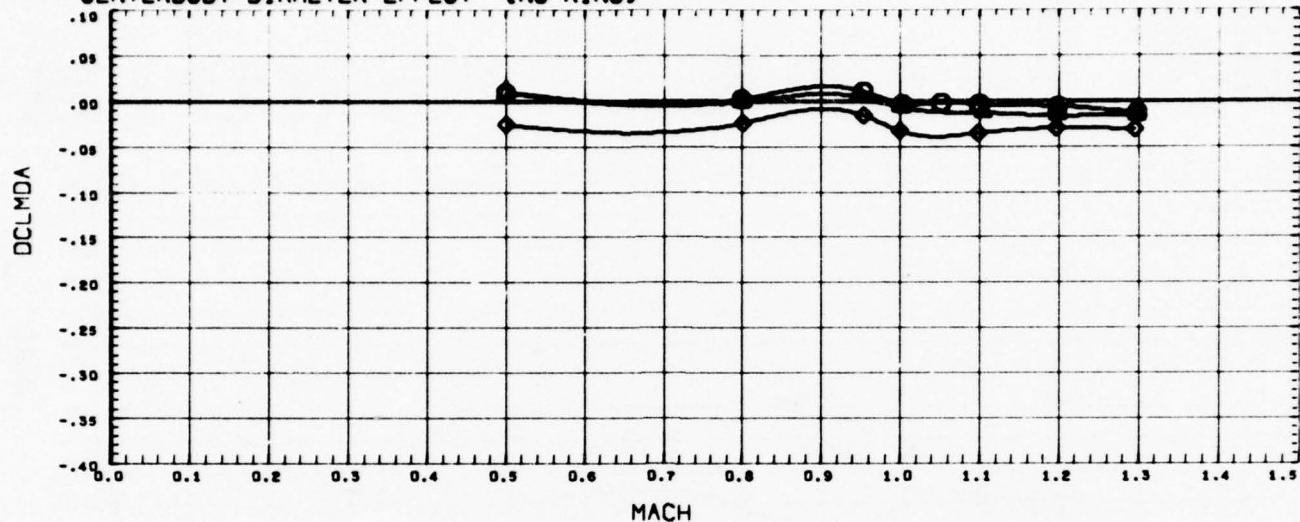
CENTERBODY DIAMETER EFFECT (NO RING)



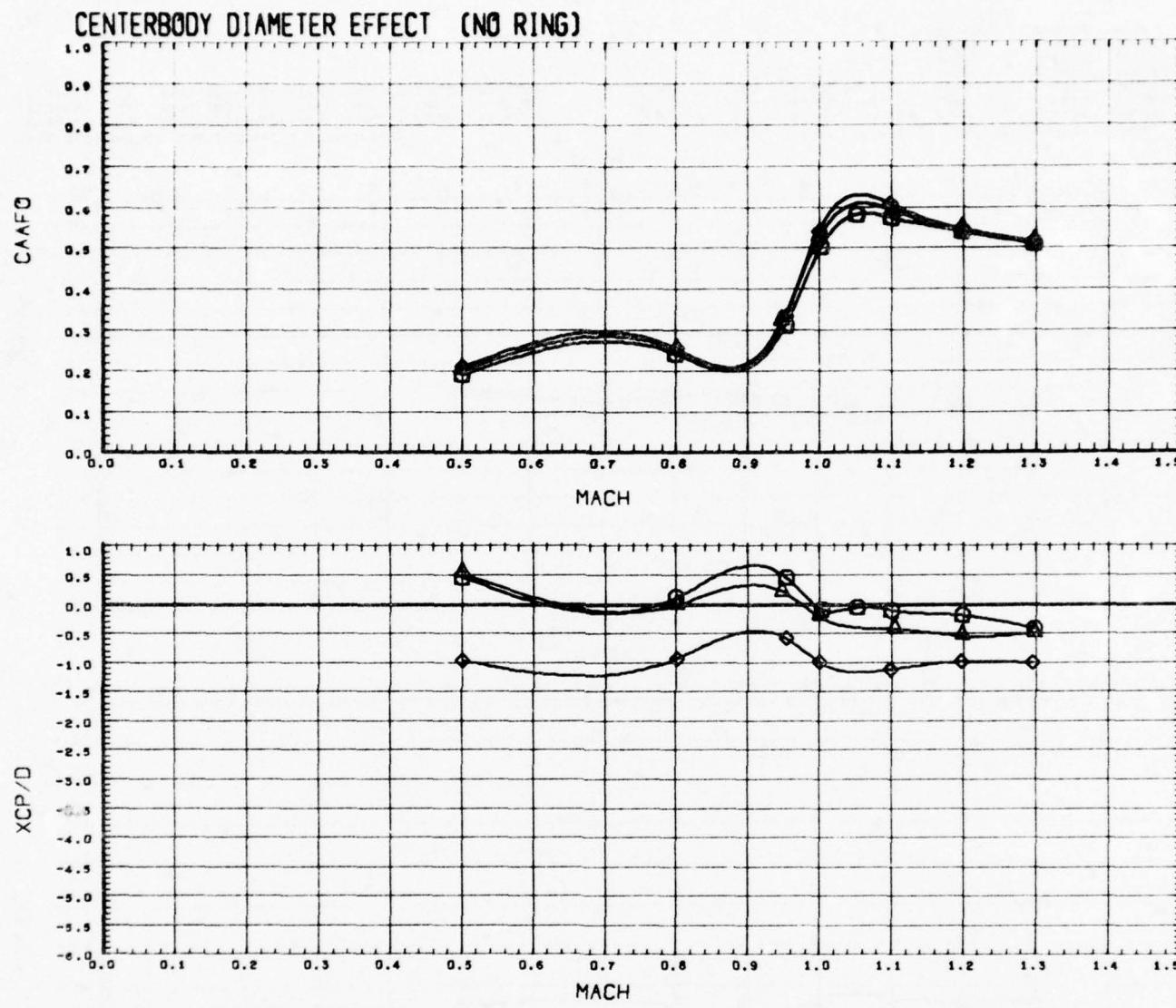
DATA SET SYMBOL CONFIGURATION DESCRIPTION  
 (BTAM02) Q AEDC TEST PWT-4T201 CONE-CYLINDER, N1M2  
 (BTAM12) A AEDC TEST PWT-4T201 CONE-CYLINDER, N1M2C5

PHI	M-LGTH	C-LGTH	C-DIA	REFERENCE INFORMATION
0.000	1.500			SREF 7.0686 SQ.IN.
0.000	1.500	5.000	0.400	LREF 3.0000 INCHES
				BREF 3.0000 INCHES
				XMRP 0.0000 INCHES
				YMRP 0.0000 INCHES
				ZMRP 0.0000 INCHES
				SCALE 0.0000 NONE

CENTERBODY DIAMETER EFFECT (NO RING)



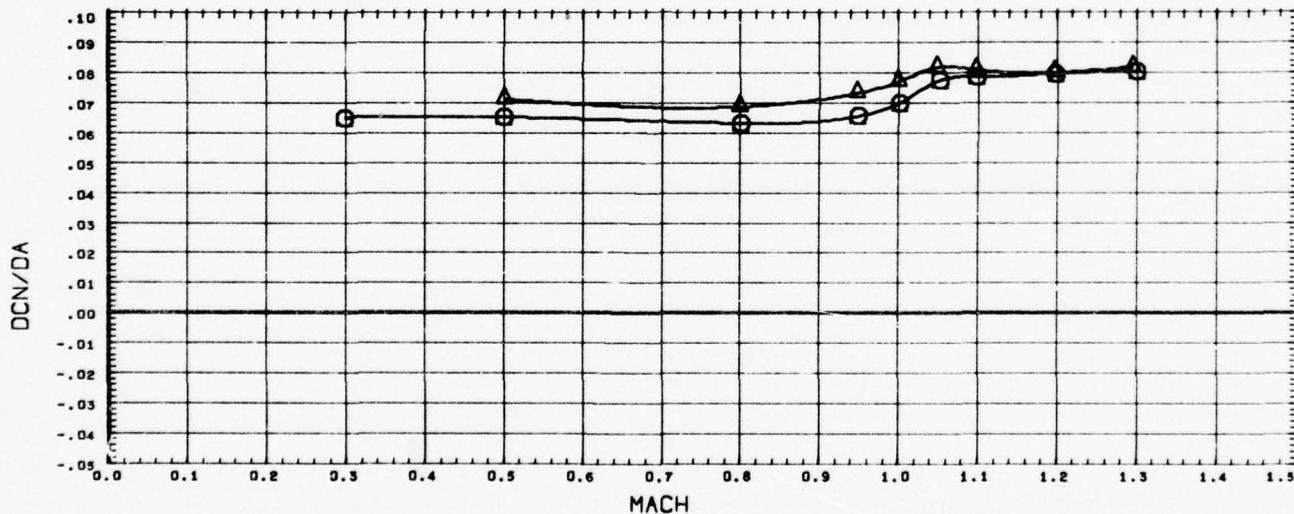
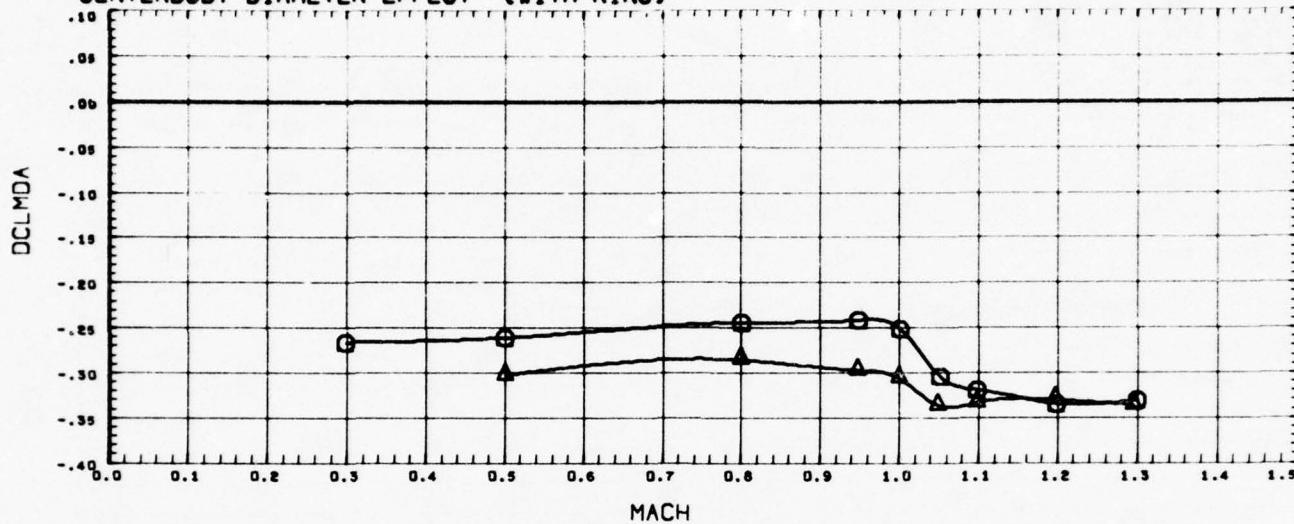
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	M-LGTH	C-LGTH	C-DIA	REFERENCE INFORMATION
(CTAM06)	AEDC TEST PWT-4T2D1 CONE-CYLINDER, N1M2C1	0.000	1.500	5.000	0.400	SREF 7.0686 SQ. IN.
(RTAM10)	AEDC TEST PWT-4T2D1 CONE-CYLINDER, N1M2C2	0.000	1.500	5.000	0.500	LREF 3.0000 INCHES
(RTAM11)	AEDC TEST PWT-4T2D1 CONE-CYLINDER, N1M2C3	0.000	1.500	5.000	0.670	BREF 3.0000 INCHES
					XMRP 0.0000 INCHES	
					YMRP 0.0000 INCHES	
					ZMRP 0.0000 INCHES	
					SCALE 0.0000 NONE	



DATA SET SYMBOL CONFIGURATION DESCRIPTION  
 (BTAM06) AEDC TEST PWT-4T201 CONE-CYLINDER, N1M2C1  
 (BTAM10) AEDC TEST PWT-4T201 CONE-CYLINDER, N1M2C2  
 (BTAM11) AEDC TEST PWT-4T201 CONE-CYLINDER, N1M2C3

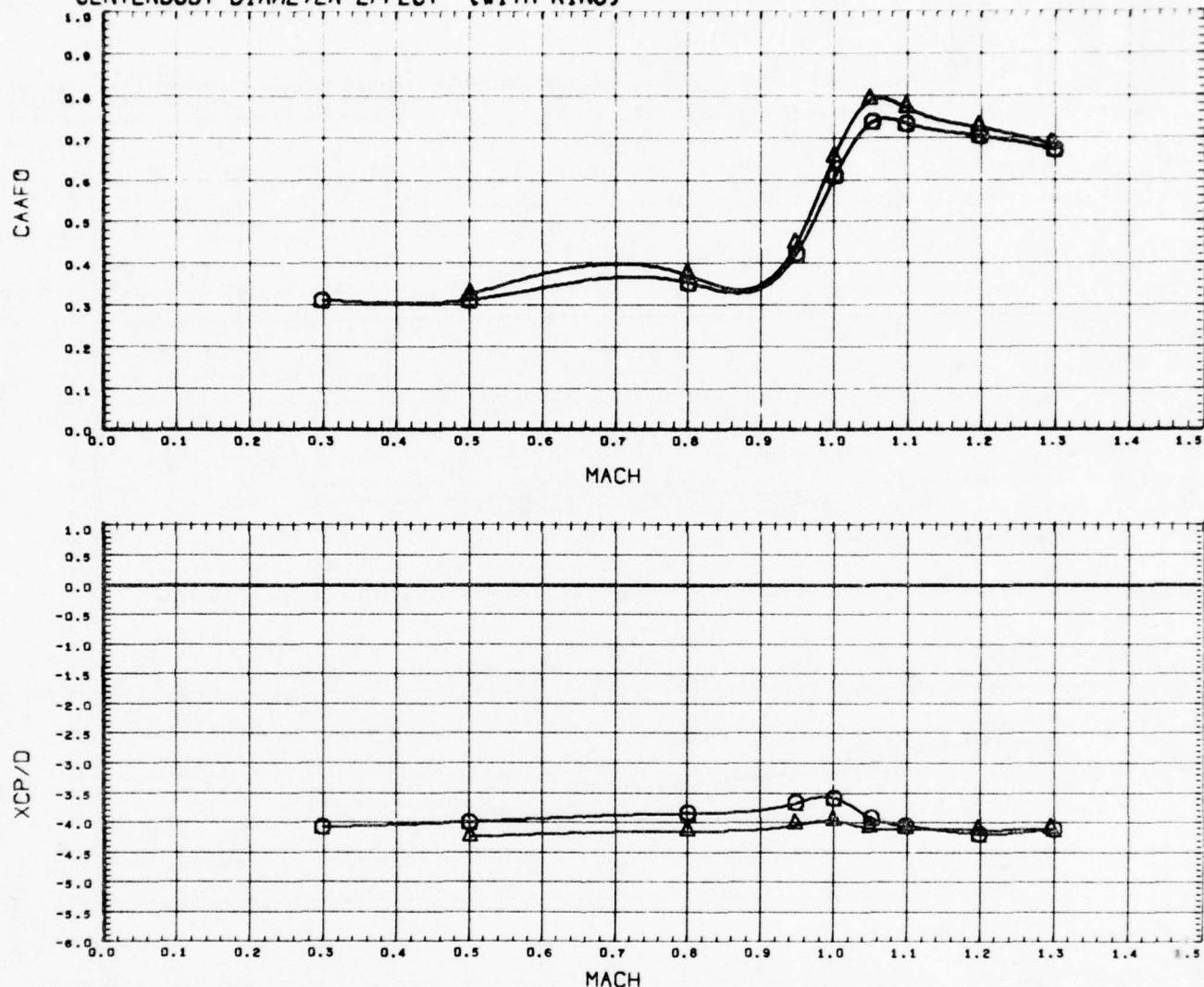
PHI	M-LGTH	C-LGTH	C-DIA	REFERENCE	INFORMATION
0.000	1.500	5.000	0.400	SREF	7.0686 SQ. IN.
0.000	1.500	5.000	0.500	LREF	3.0000 INCHES
0.000	1.500	5.000	0.670	BREF	3.0000 INCHES
				XMRP	0.0000 INCHES
				YMRP	0.0000 INCHES
				ZMRP	0.0000 INCHES
				SCALE	0.0000 NONE

CENTERBODY DIAMETER EFFECT (WITH RING)



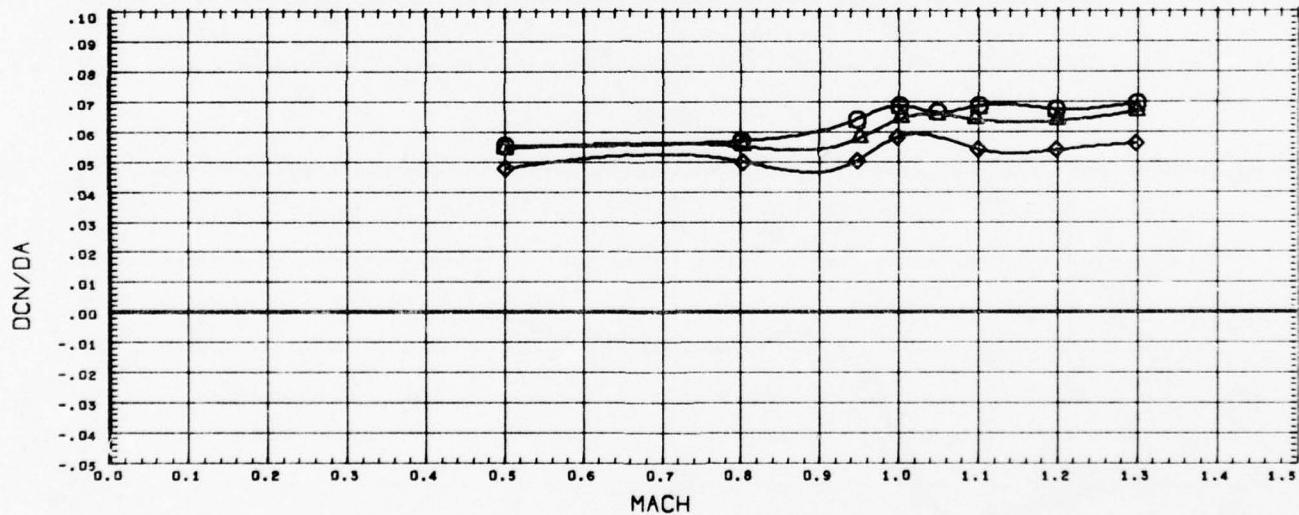
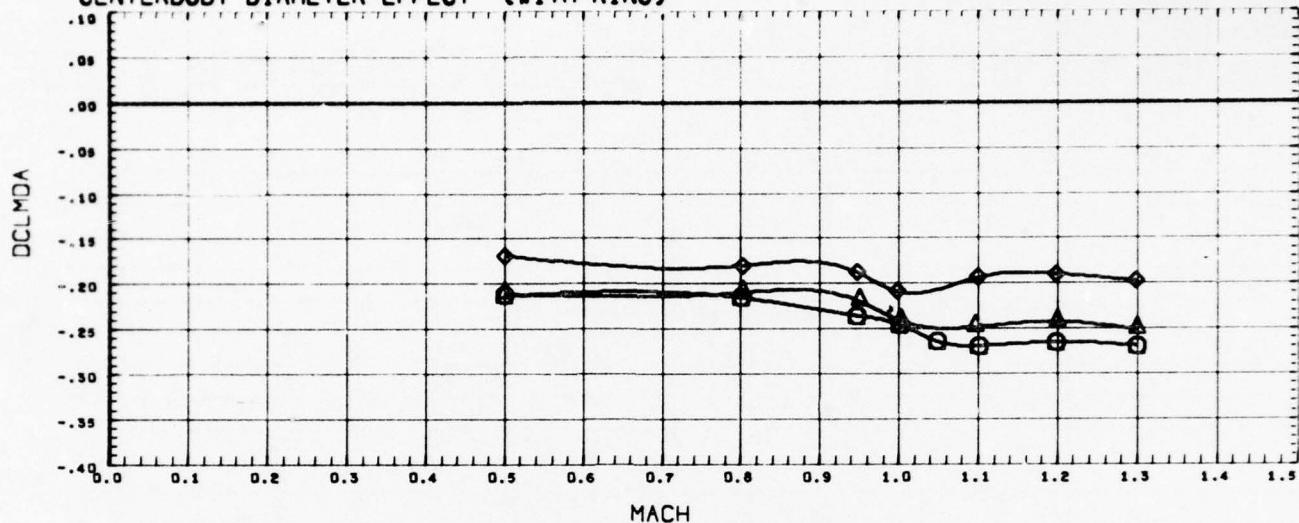
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	H-LGTH	C-LGTH	C-DIA	REFERENCE INFORMATION
(CTAR02)	AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL, NIR2	0.000	1.500			SREF 7.0686 SQ.IN.
(RTAR25)	AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL,NIR2C5	0.000	1.500	5.000	0.400	LREF 3.0000 INCHES
					BREF 3.0000 INCHES	
					XMRP 0.0000 INCHES	
					YMRP 0.0000 INCHES	
					ZMRP 0.0000 INCHES	
					SCALE 0.0000 NONE	

CENTERBODY DIAMETER EFFECT (WITH RING)



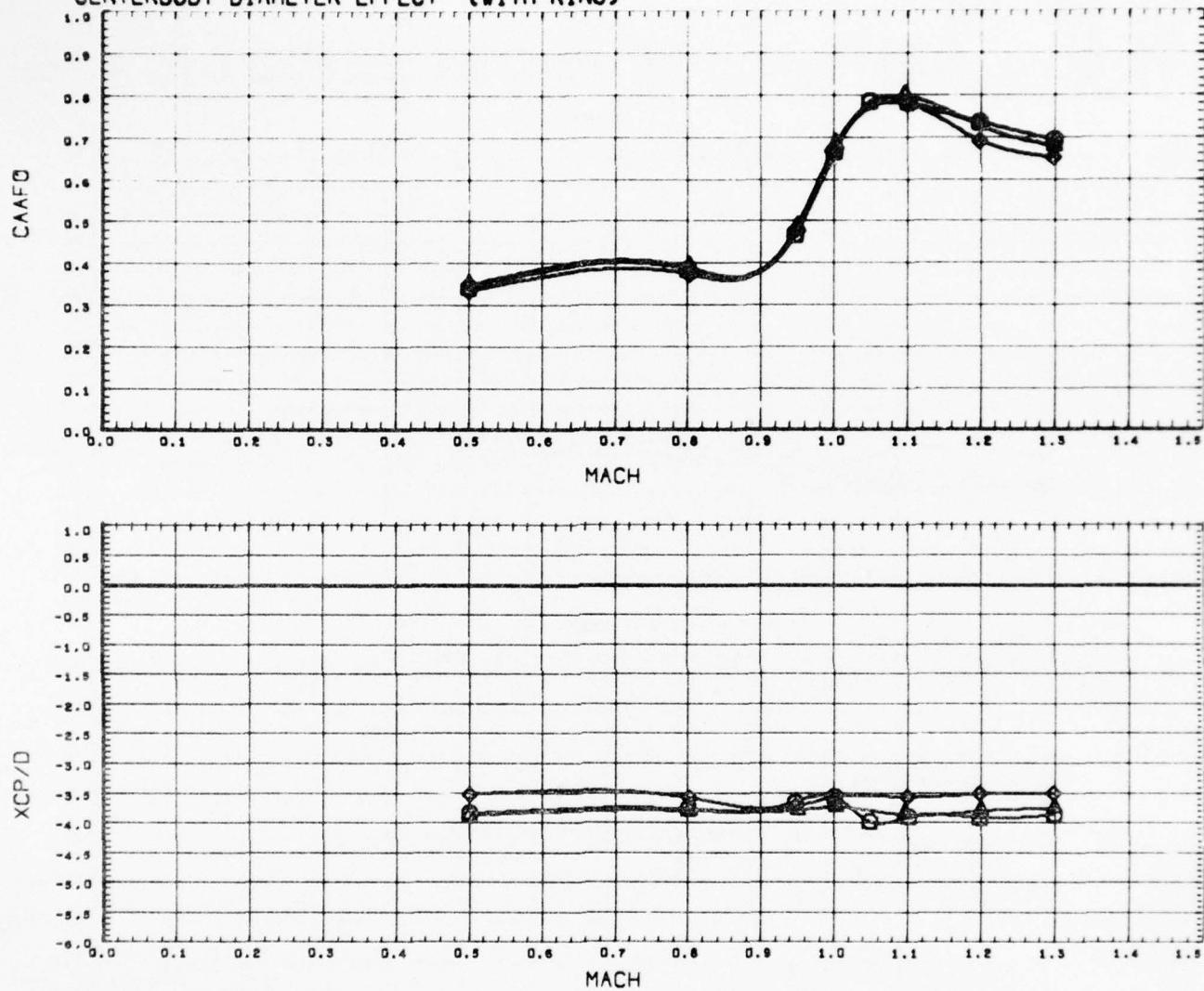
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	M-LGTH	C-LGTH	C-DIA	REFERENCE INFORMATION
(BTAR02)	AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL, N1R2	0.000	1.500			SREF 7.0686 SQ-IN.
(BTAR25)	AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL,N1R2C5	0.000	1.500	5.000	0.400	LREF 3.0000 INCHES
					BREF 3.0000 INCHES	
					XMRP 0.0000 INCHES	
					YMRP 0.0000 INCHES	
					ZMRP 0.0000 INCHES	
					SCALE 0.0000 NONE	

### CENTERBODY DIAMETER EFFECT (WITH RING)



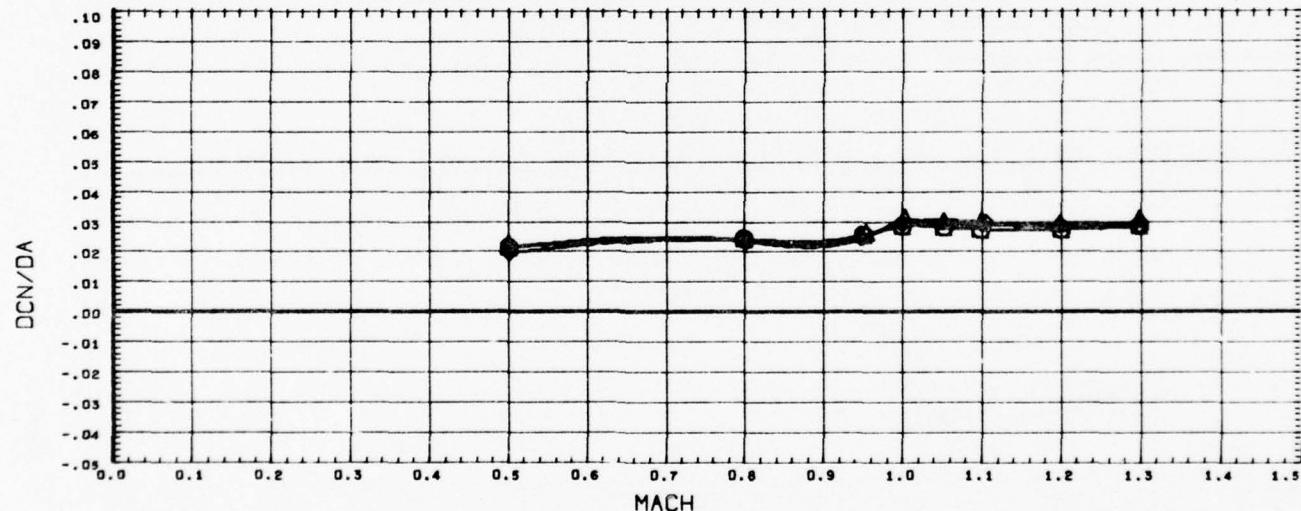
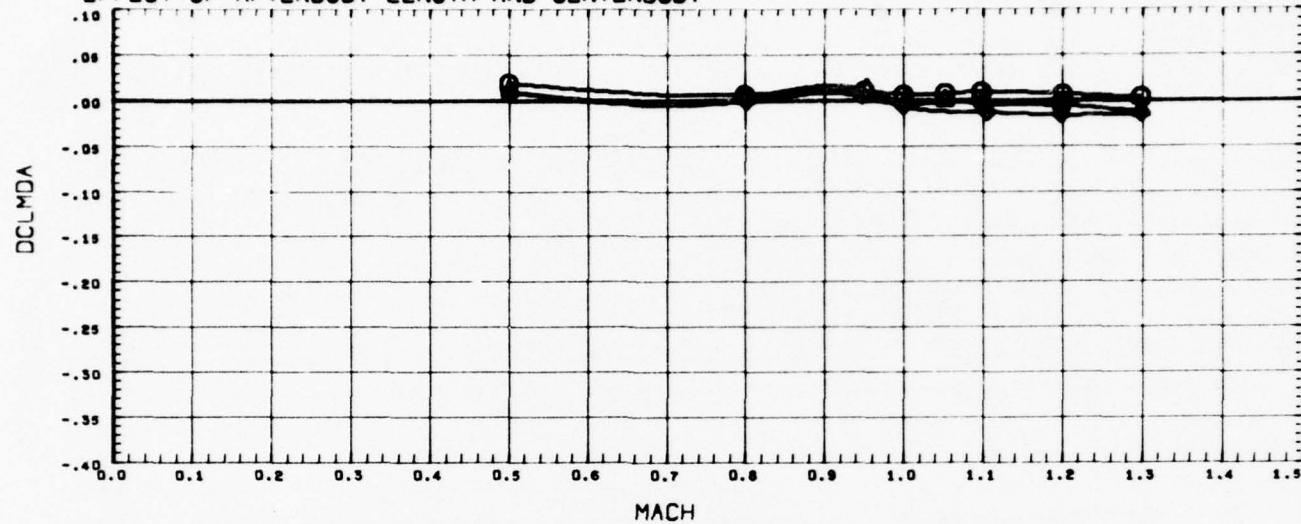
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	M-LGTH	C-LGTH	C-DIA	REFERENCE INFORMATION
(RTAR09)	AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL,NIR2C1	0.000	1.500	5.000	0.400	SREF 7.0686 SQ.IN.
(RTAR18)	AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL,NIR2C2	0.000	1.500	5.000	0.500	LREF 3.0000 INCHES
(RTAR20)	AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL,NIR2C3	0.000	1.500	5.000	0.670	BREF 3.0000 INCHES
					XMRP 0.0000 INCHES	
					YMRP 0.0000 INCHES	
					ZMRP 0.0000 INCHES	
					SCALE 0.0000 NONE	

### CENTERBODY DIAMETER EFFECT (WITH RING)

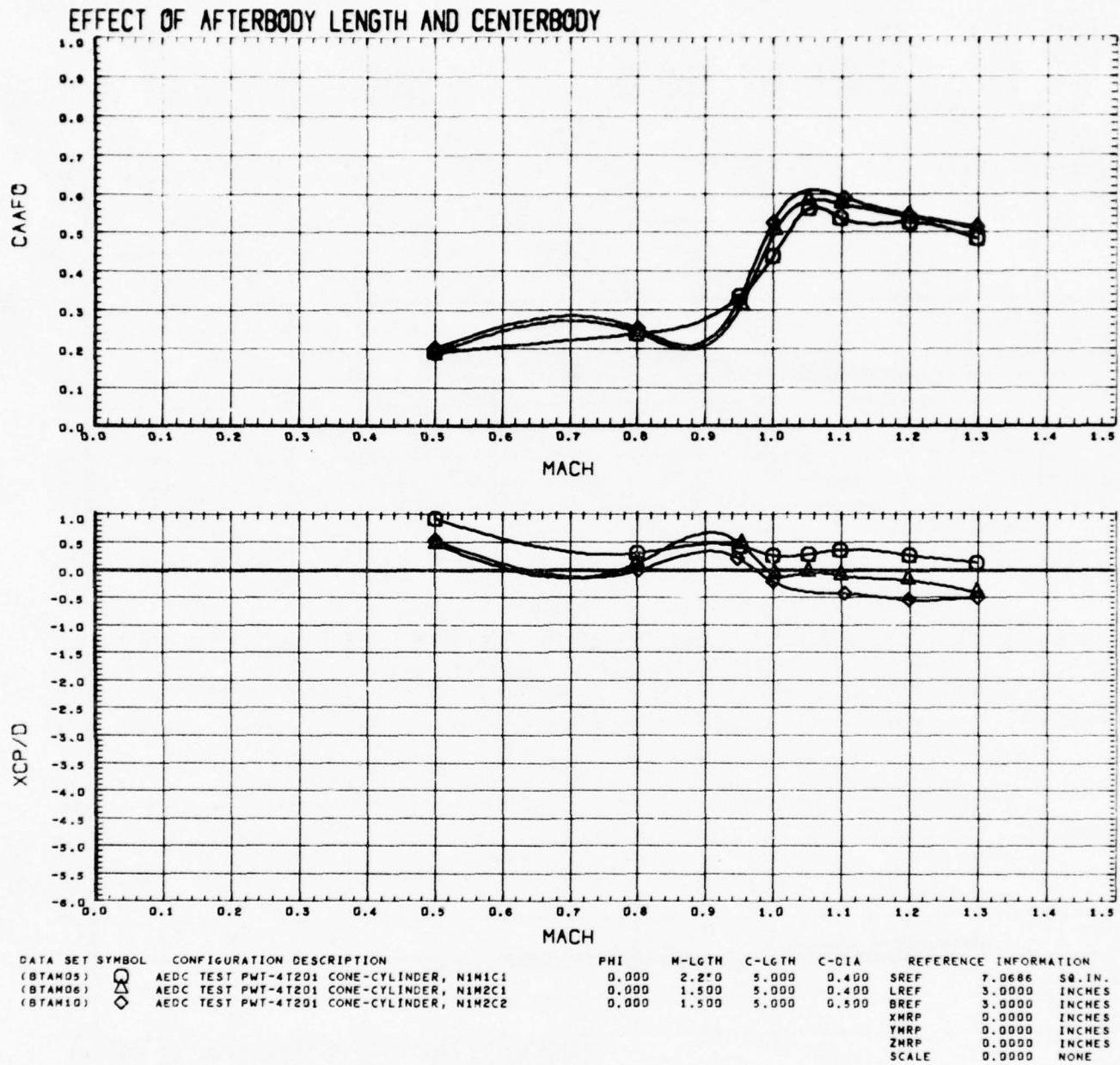


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	M-LGTH	C-LGTH	C-DIA	REFERENCE INFORMATION
(BTAR09)	AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL,N1R2C1	0.000	1.500	5.000	0.400	SREF 7.0686 50. IN.
(BTAR10)	AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL,N1R2C2	0.000	1.500	5.000	0.500	LREF 3.0000 INCHES
(BTAR20)	AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL,N1R2C3	0.000	1.500	5.000	0.670	BREF 3.0000 INCHES XMRP 0.0000 INCHES YMRP 0.0000 INCHES ZMRP 0.0000 INCHES SCALE 0.0000 NONE

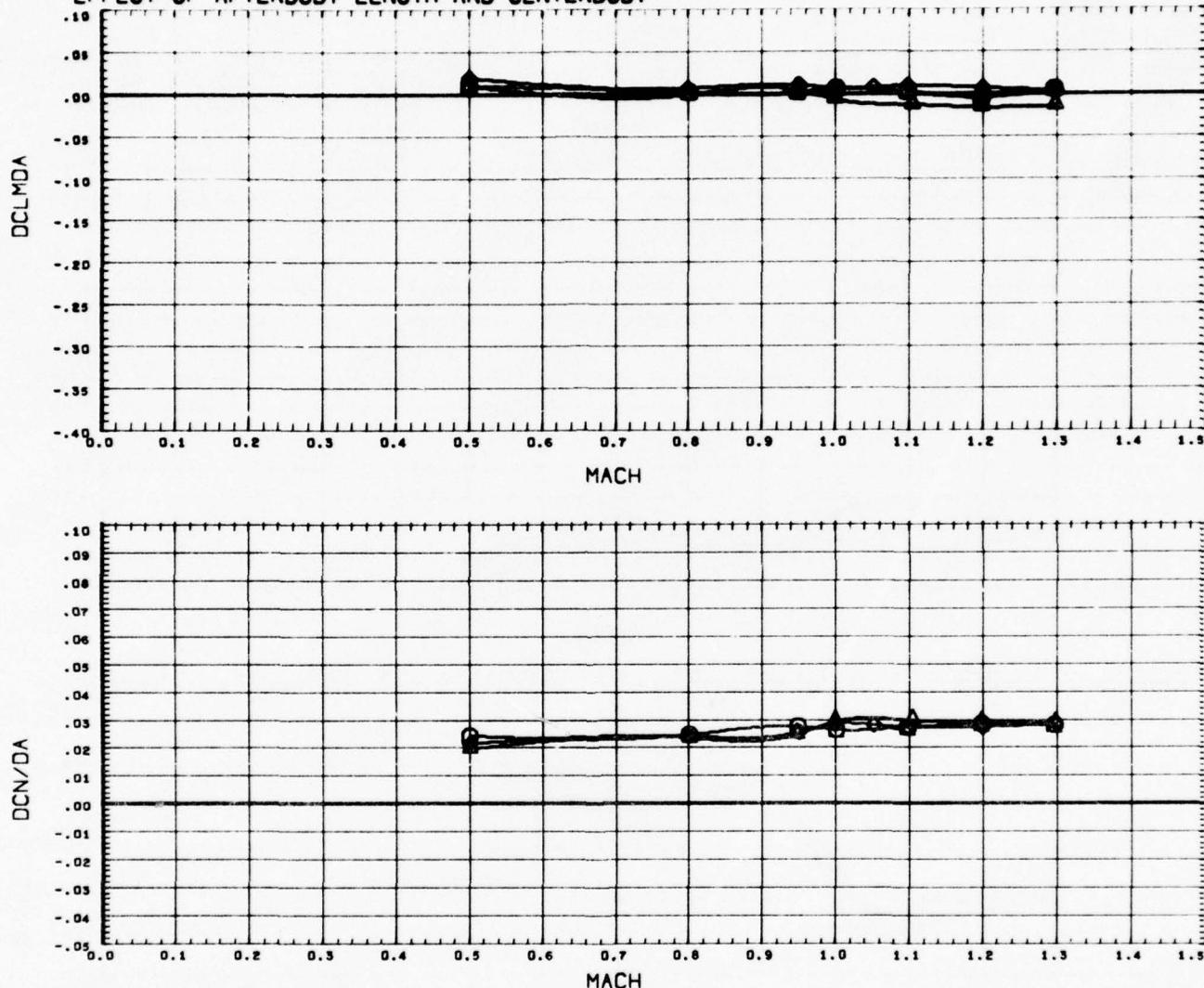
### EFFECT OF AFTERBODY LENGTH AND CENTERBODY



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	M-LGTH	C-LGTH	C-DIA	REFERENCE INFORMATION
(RTAM05)	AEDC TEST PWT-4T201 CONE-CYLINDER, N1M1C1	0.000	2.250	5.000	0.400	SREF 7.0686 SQ. IN.
(CTAM06)	AEDC TEST PWT-4T201 CONE-CYLINDER, N1M2C1	0.000	1.500	5.000	0.400	LREF 3.0000 INCHES
(RTAM10)	AEDC TEST PWT-4T201 CONE-CYLINDER, N1M2C2	0.000	1.500	5.000	0.500	BREF 3.0000 INCHES
					XMRP 0.0000 INCHES	
					YMRP 0.0000 INCHES	
					ZMRP 0.0000 INCHES	
					SCALE 0.0000 NONE	



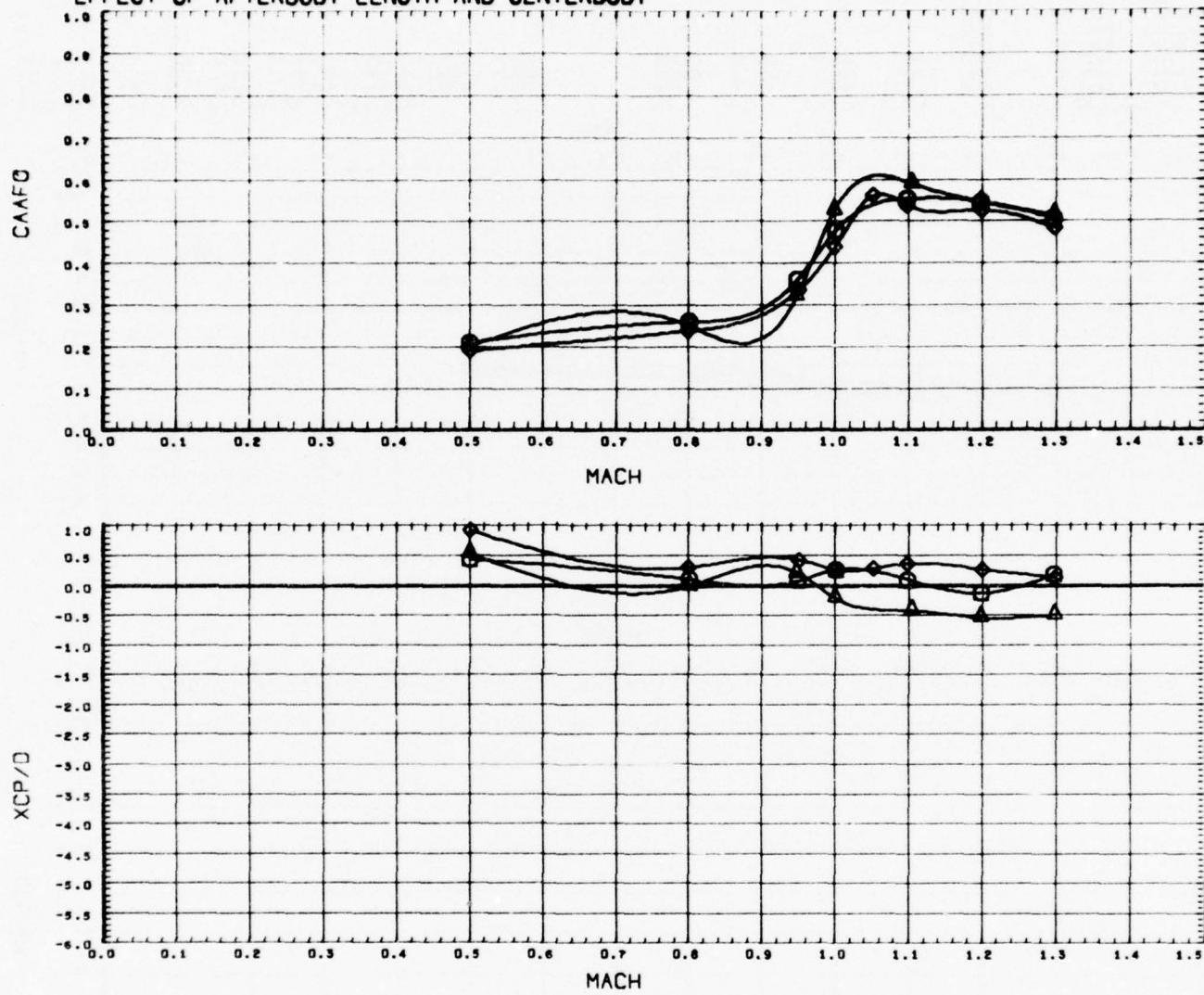
### EFFECT OF AFTERBODY LENGTH AND CENTERBODY



DATA SET SYMBOL CONFIGURATION DESCRIPTION  
 (RTAM13) Q AEDC TEST PWT-4T201 CONE-CYLINDER, NIM1C4  
 (RTAM10) A AEDC TEST PWT-4T201 CONE-CYLINDER, NIM2C2  
 (RTAM05) D AEDC TEST PWT-4T201 CONE-CYLINDER, NIM1C1

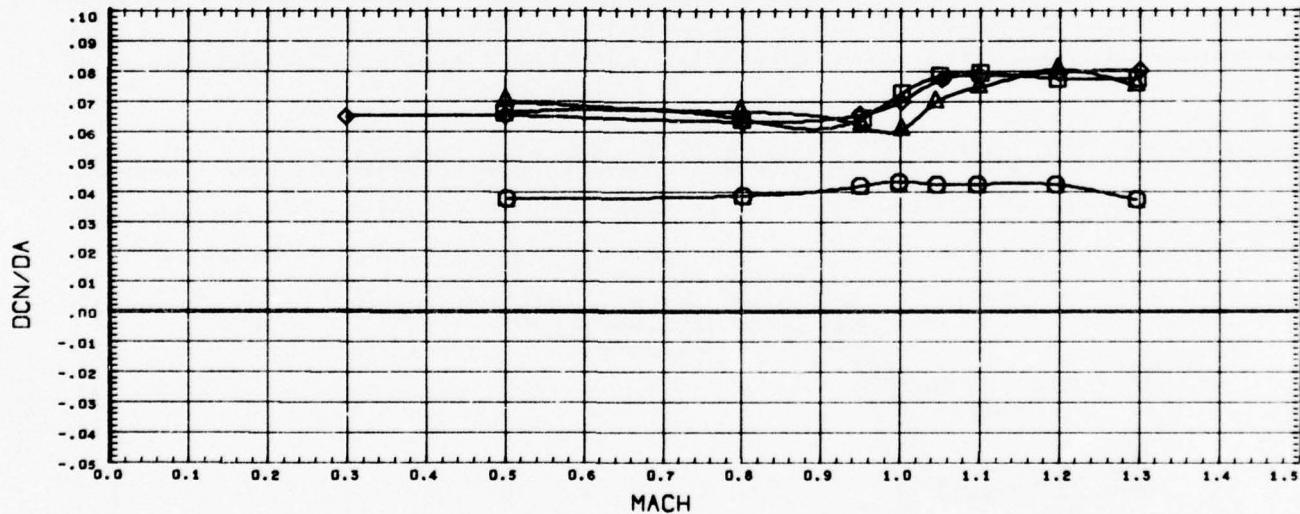
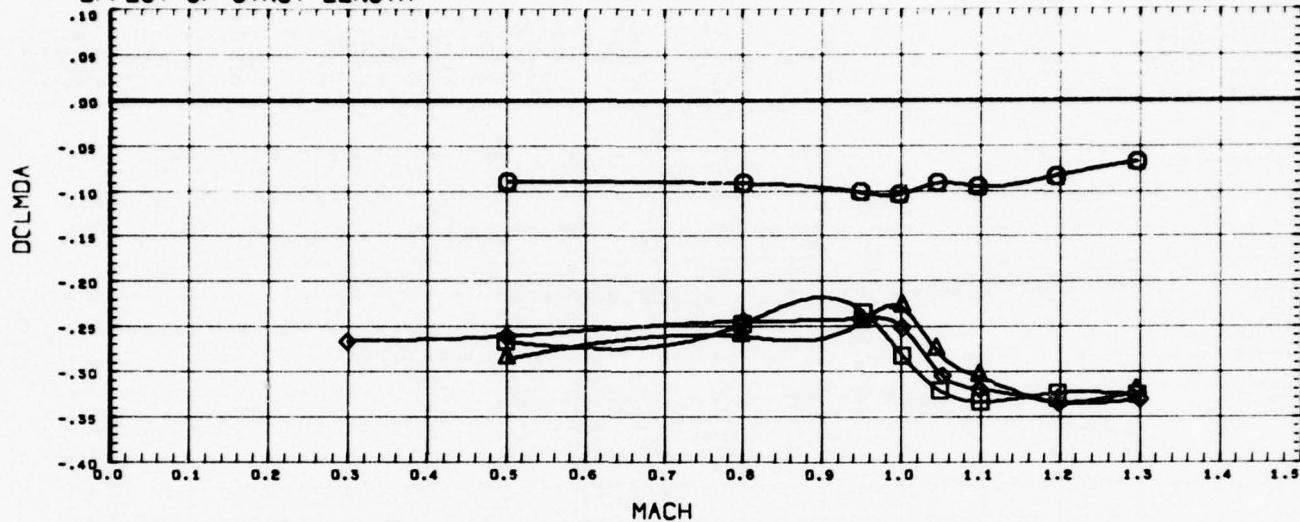
	PHI	M-LGTH	C-LGTH	C-DIA	REFERENCE	INFORMATION
(RTAM13)	0.000	2.200	6.500	0.500	SREF	7.0686 SQ.IN.
(RTAM10)	0.000	1.500	5.000	0.500	LREF	3.0000 INCHES
(RTAM05)	0.000	2.250	5.000	0.400	BREF	3.0000 INCHES
					XMRP	0.0000 INCHES
					YMRP	0.0000 INCHES
					ZMRP	0.0000 INCHES
					SCALE	0.0000 NONE

### EFFECT OF AFTERBODY LENGTH AND CENTERBODY



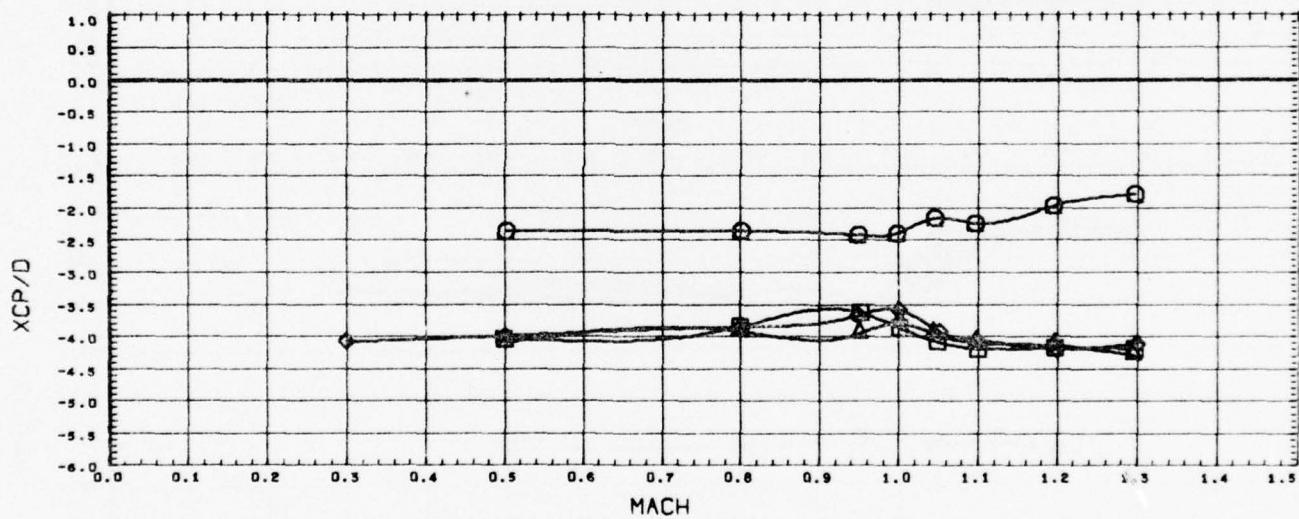
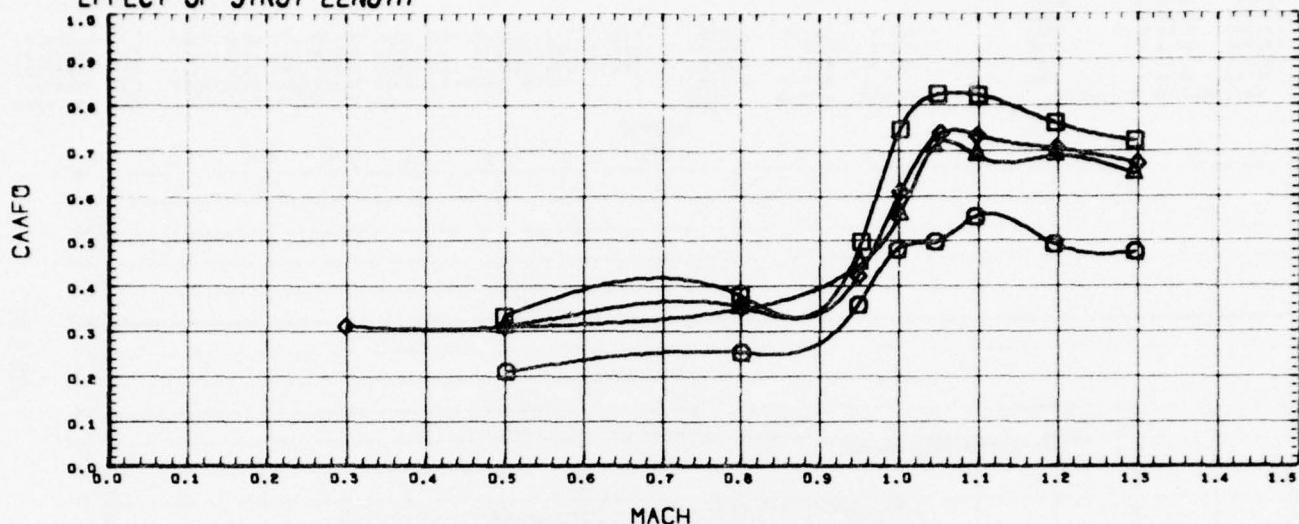
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	M-LGTH	C-LGTH	C-DIA	REFERENCE INFORMATION
(BTAM13)	AEDC TEST PWT-4T2D1 CONE-CYLINDER, NIM1C4	0.000	2.240	6.500	0.500	SREF 7.0686 50. IN.
(BTAM10)	AEDC TEST PWT-4T2D1 CONE-CYLINDER, NIM2C2	0.000	1.500	5.000	0.500	LREF 3.0000 INCHES
(BTAM05)	AEDC TEST PWT-4T2D1 CONE-CYLINDER, NIM1C1	0.000	2.250	5.000	0.400	BREF 3.0000 INCHES
					XMRP 0.0000 INCHES	
					YMRP 0.0000 INCHES	
					ZMRP 0.0000 INCHES	
					SCALE 0.0000 NONE	

## EFFECT OF STRUT LENGTH



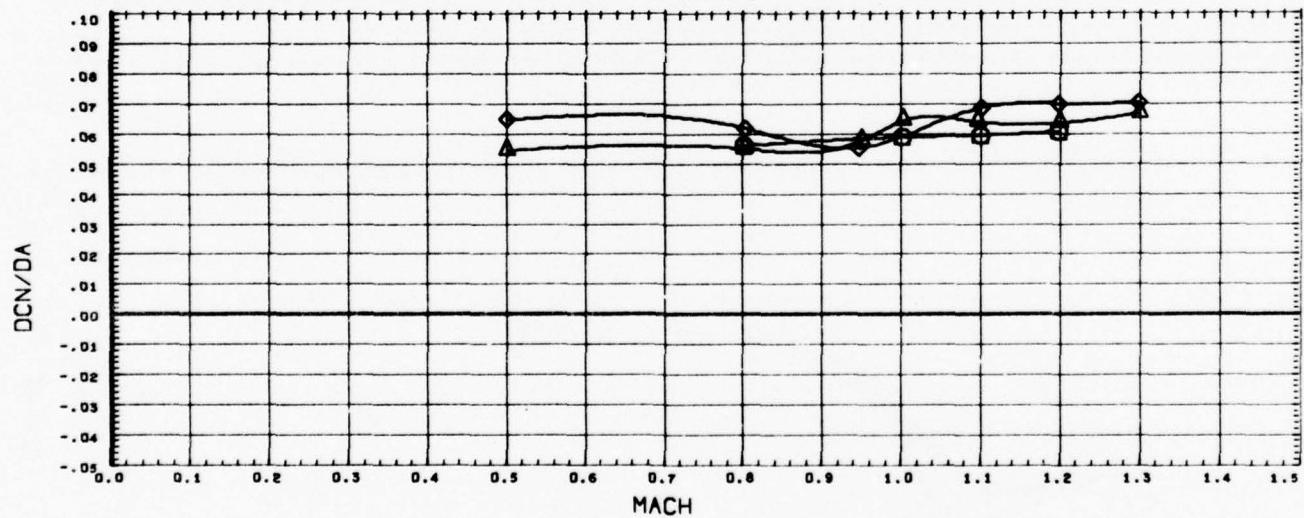
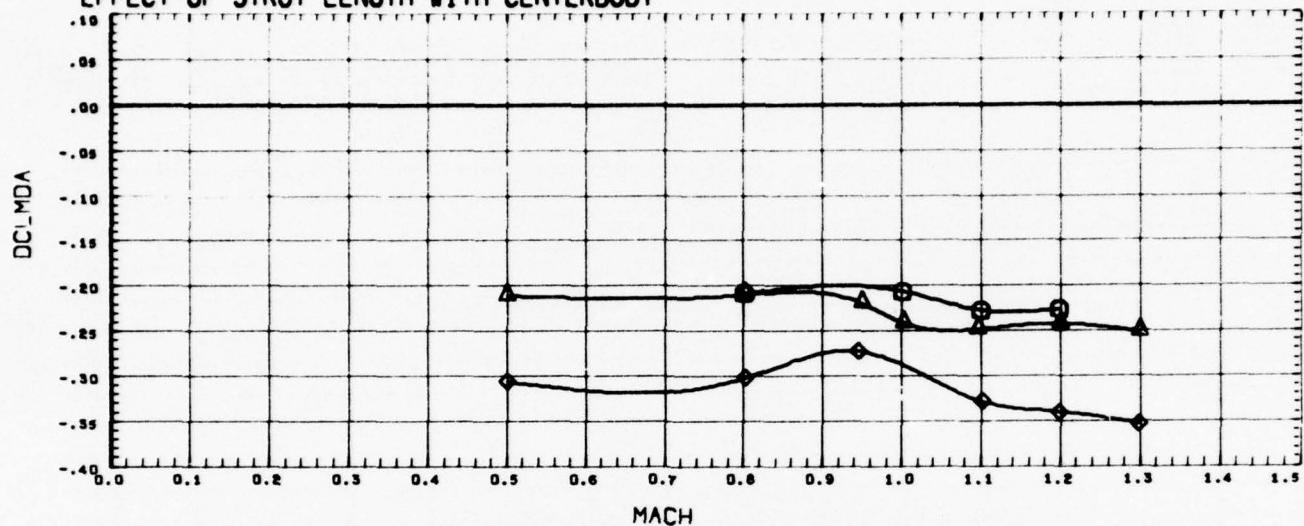
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	H-LGTH	LS-LGH	REFERENCE INFORMATION
(RTARD04)	AEDC TEST PWT-4T201 CONE-CYLINDER, N1M4	0.000	5.750		SREF 7.0686 50. IN.
(RTARD01)	AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL, N1R1	0.000	2.250	2.500	LREF 3.0000 INCHES
(RTARD02)	AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL, N1R2	0.000	1.500	3.250	BREF 3.0000 INCHES
(RTARD06)	AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL, N1R3	0.000	0.750	4.000	XWRP 0.0000 INCHES
					ZWRP 0.0000 INCHES
					SCALE 0.0000 NONE

### EFFECT OF STRUT LENGTH



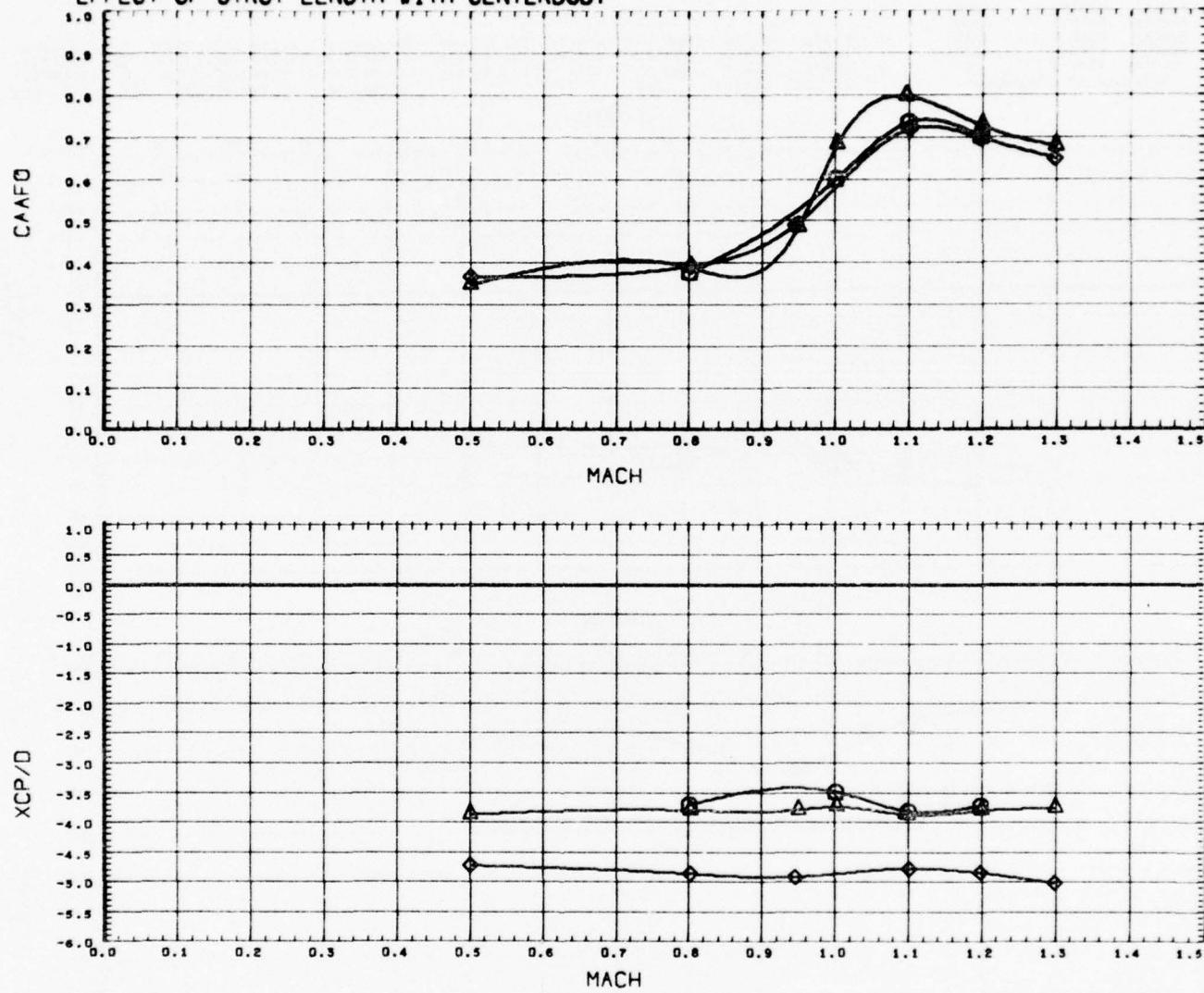
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	M-LGTH	LS-LGH	REFERENCE INFORMATION
(BTAR04)	AEDC TEST PWT-4T201 CONE-CYLINDER, NIM4	0.000	5.750		SREF 7.0686 59 IN.
(BTAR01)	AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL, NIR1	0.000	2.250	2.500	LREF 3.0000 INCHES
(BTAR02)	AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL, NIR2	0.000	1.500	3.250	BREF 3.0000 INCHES
(BTAR06)	AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL, NIR3	0.000	0.750	4.000	XMRP 0.0000 INCHES
					ZMRP 0.0000 INCHES
					SCALE 0.0000 NONE

### EFFECT OF STRUT LENGTH WITH CENTERBODY



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	M-LGTH	LS-LGH	REFERENCE INFORMATION
(RTAR08)	AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL,NIR1C2	0.000	2.250	2.500	SREF 7.0686 SQ. IN.
(RTAR18)	AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL,NIR2C2	0.000	1.500	3.250	LREF 3.0000 INCHES
(RTAR17)	AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL,NIR6C2	0.000	2.250	4.000	BREF 3.0000 INCHES
					XMRP 0.0000 INCHES
					YMRP 0.0000 INCHES
					ZMRP 0.0000 INCHES
					SCALE 0.0000 NONE

### EFFECT OF STRUT LENGTH WITH CENTERBODY



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(BTAR08) AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL,N1R1C2  
 (BTAR18) AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL,N1R2C2  
 (BTAR17) AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL,N1R6C2

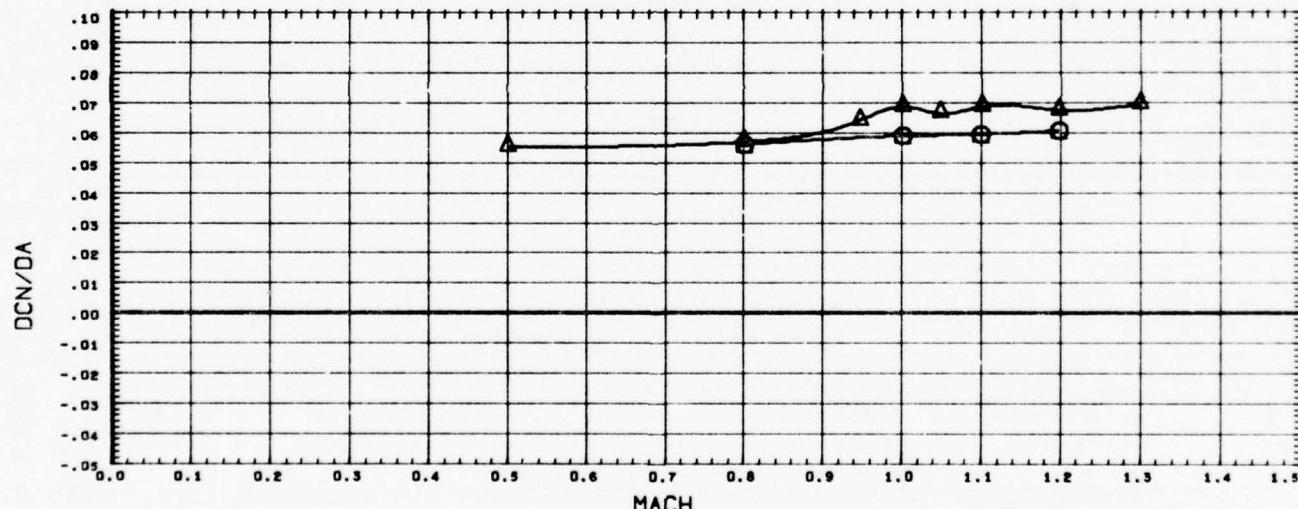
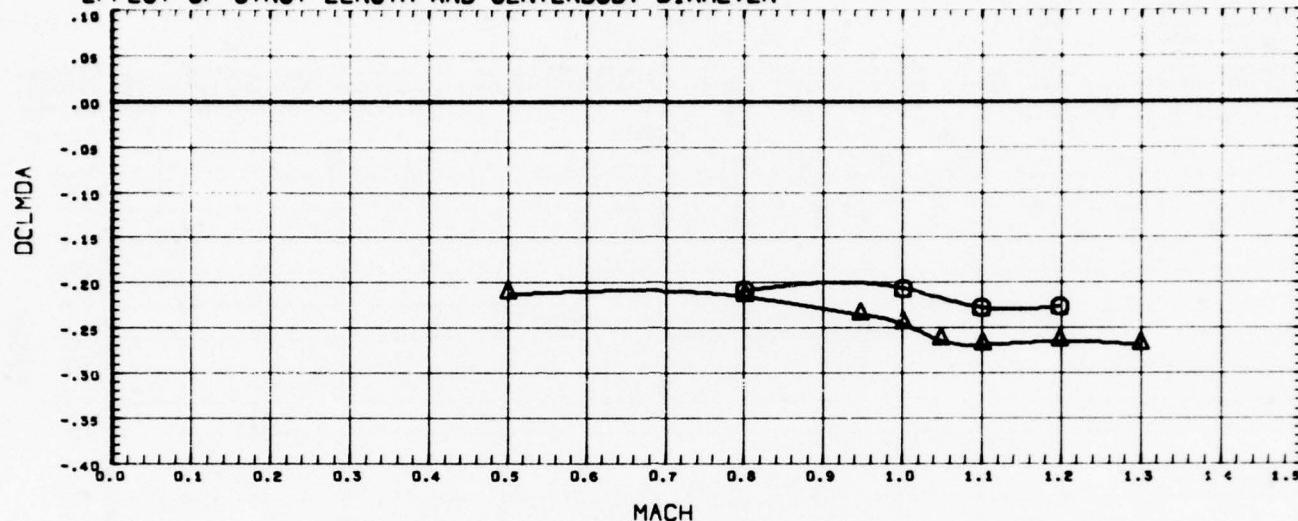
PHI M-LGTH LS-LGH

0.000 2.250 2.500  
 0.000 1.500 3.250  
 0.000 2.250 4.000

REFERENCE INFORMATION

SREF 7.0686 SQ. IN.  
 LREF 3.0000 INCHES  
 BREF 3.0000 INCHES  
 XMRP 0.0000 INCHES  
 YMRP 0.0000 INCHES  
 ZMRP 0.0000 INCHES  
 SCALE 0.0000 NONE

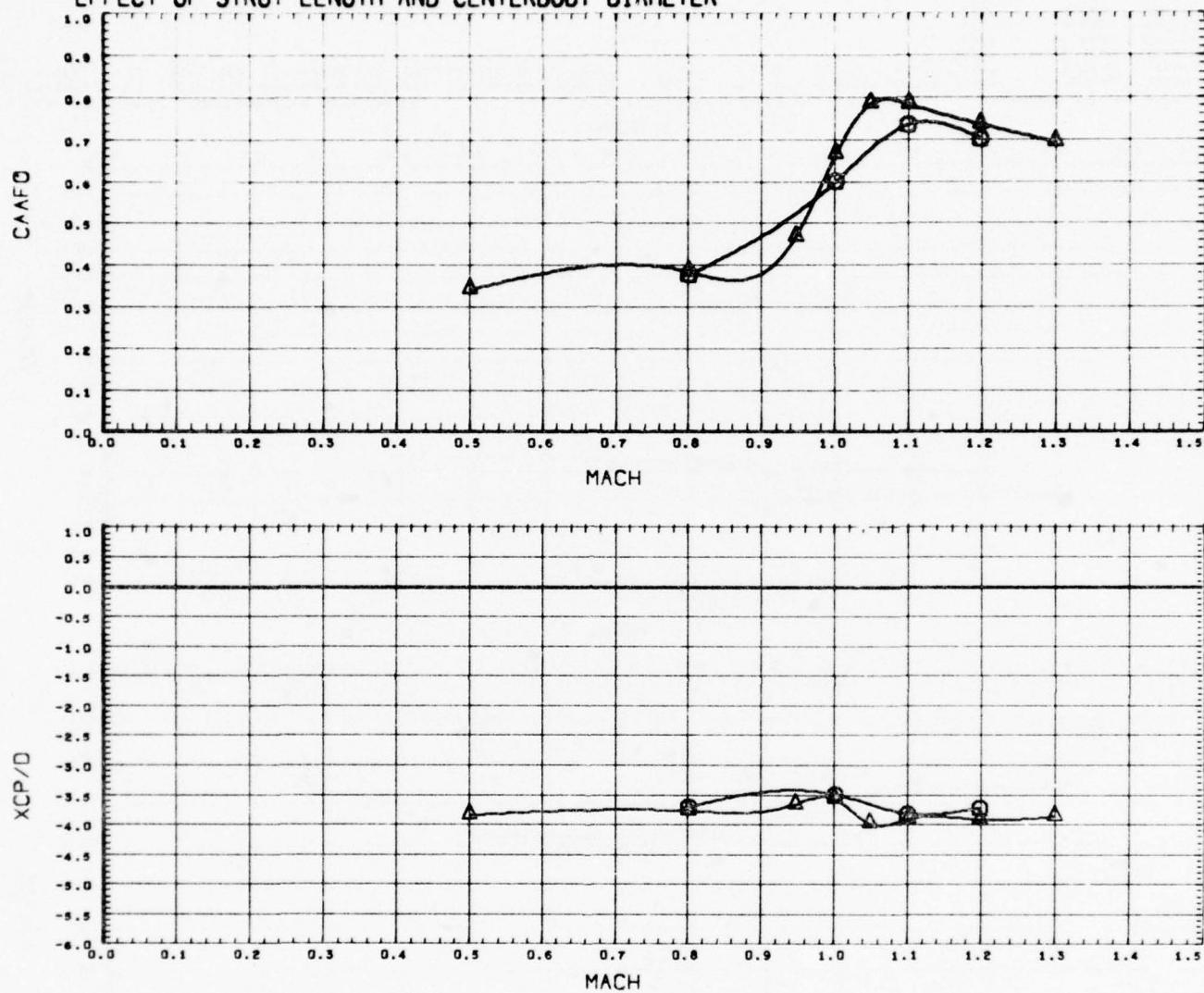
### EFFECT OF STRUT LENGTH AND CENTERBODY DIAMETER



DATA SET SYMBOL CONFIGURATION DESCRIPTION  
 (RTARD8) AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL,NIRIC2  
 (RTARD9) AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL,NIR2C1

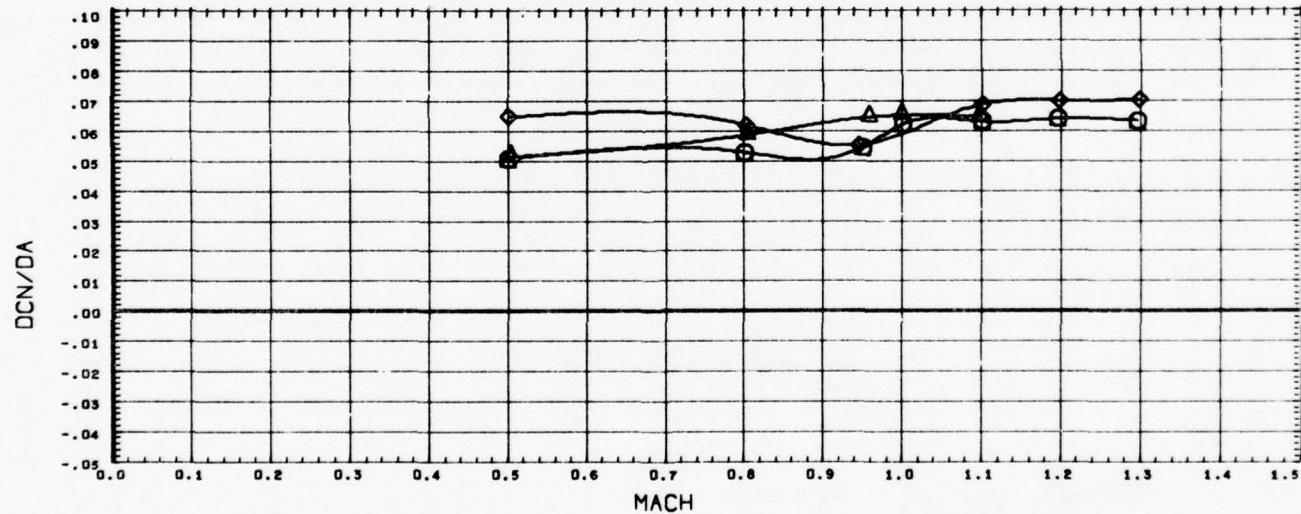
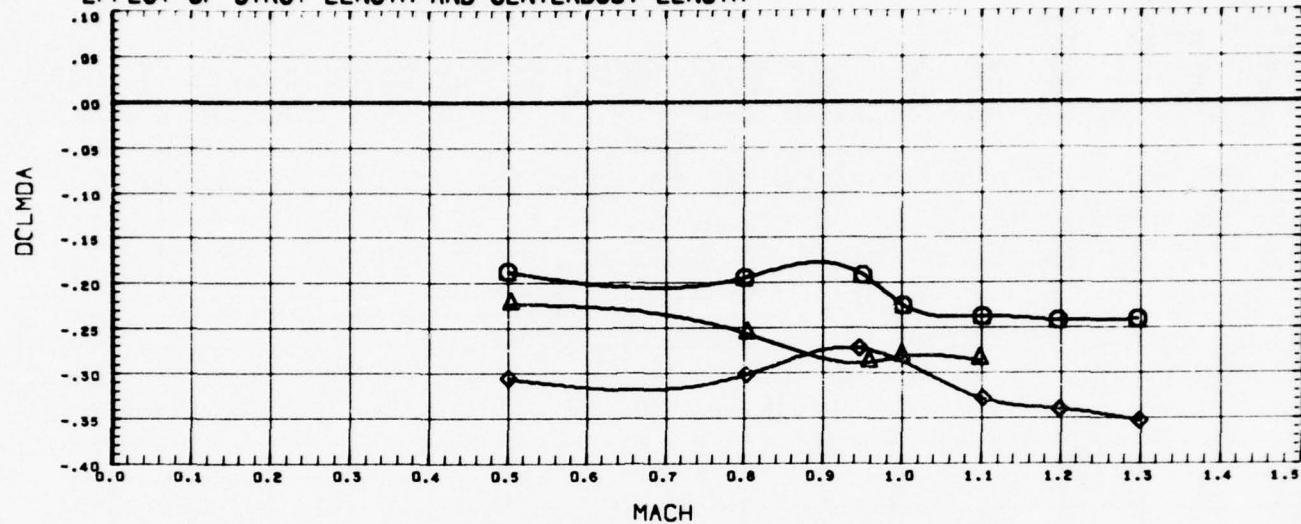
M-LGTH	LS-LGH	C-LGTH	C-DIA	REFERENCE INFORMATION
2.250	2.500	5.000	0.500	SREF 7.0686 SQ. IN.
1.500	3.250	5.000	0.400	LREF 3.0000 INCHES
				BREF 3.0000 INCHES
				XHLP 0.0000 INCHES
				YHLP 0.0000 INCHES
				ZHLP 0.0000 INCHES
				SCALE 0.0000 NONE

### EFFECT OF STRUT LENGTH AND CENTERBODY DIAMETER



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	M-LGTH	LS-LGH	C-LGTH	C-DIA	REFERENCE INFORMATION
(BTARD8)	AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL,N1R1C2	2.250	2.500	5.000	0.500	SREF 7.0886 SQ. IN.
(BTARD9)	AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL,N1R2C1	1.500	3.250	5.000	0.400	LREF 3.0000 INCHES BREF 3.0000 INCHES XMRP 0.0000 INCHES YMRP 0.0000 INCHES ZMRP 0.0000 INCHES SCALE 0.0000 NONE

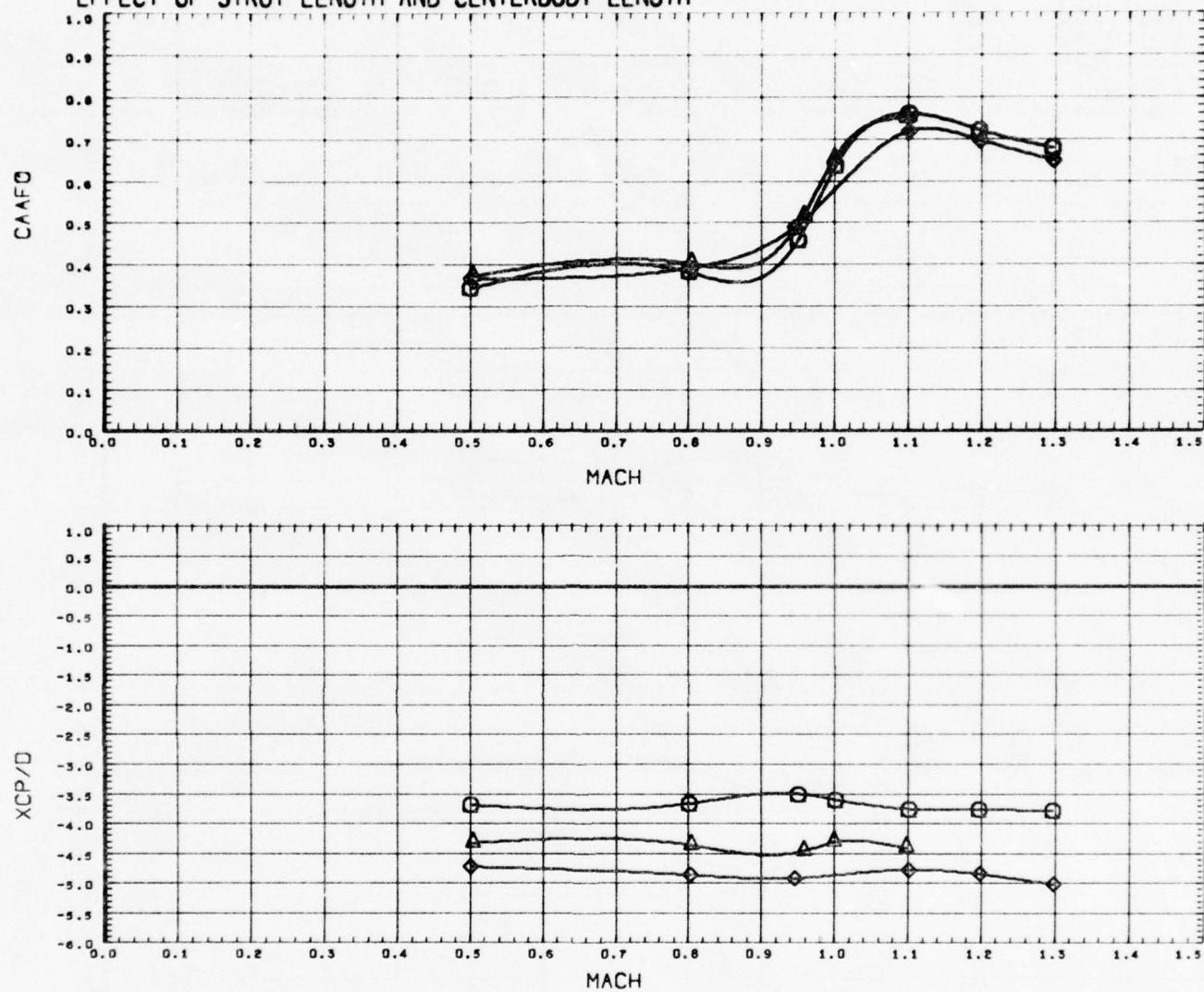
### EFFECT OF STRUT LENGTH AND CENTERBODY LENGTH



DATA SET SYMBOL CONFIGURATION DESCRIPTION  
 (RTAR21) AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL,N1R2C4  
 (RTAR22) AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL,N1R6C4  
 (RTAR17) AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL,N1R6C2

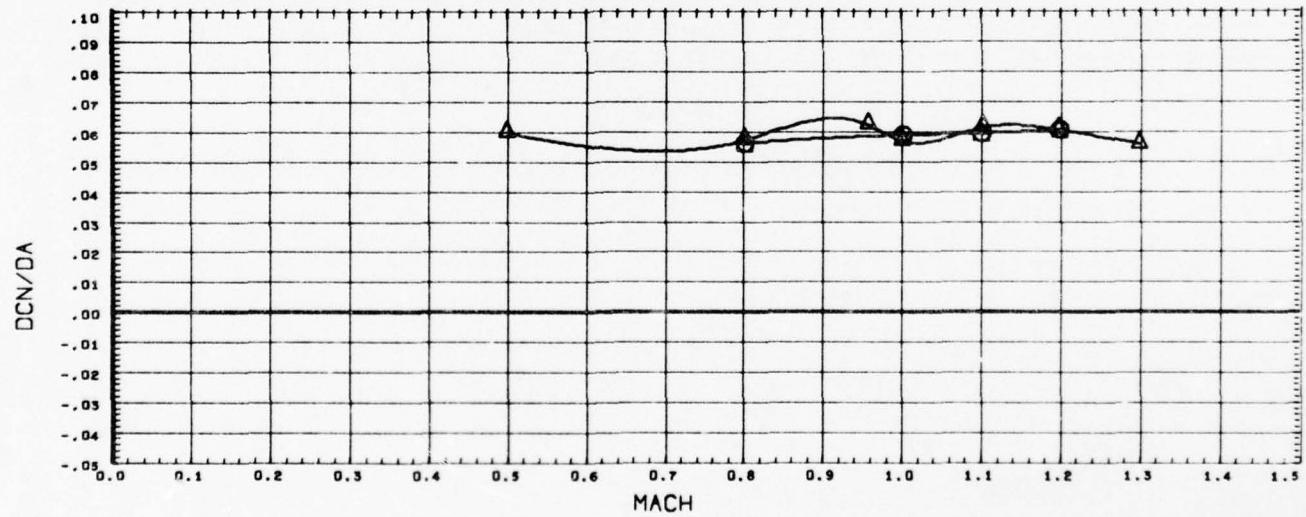
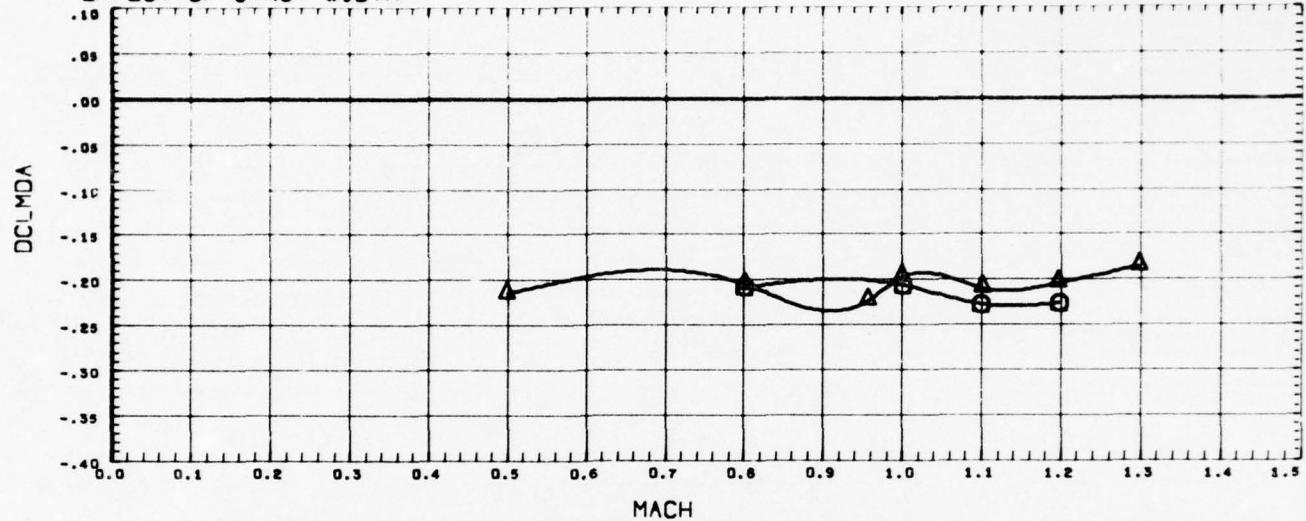
	M-LGTH	LS-LGTH	C-LGTH	C-DIA	SREF	LREF	BREF	XRP	YRP	ZRP	SCALE	REFERENCE INFORMATION
(RTAR21)	1.500	3.250	6.500	0.500	7.066	50. IN.						
(RTAR22)	2.250	4.000	6.500	0.500	3.0000	INCHES						
(RTAR17)	2.250	4.000	5.000	0.500	3.0000	INCHES						
					XRP	0.0000	INCHES					
					YRP	0.0000	INCHES					
					ZRP	0.0000	INCHES					
					SCALE	0.0000	NONE					

### EFFECT OF STRUT LENGTH AND CENTERBODY LENGTH



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	M-LGTH	LS-LGH	C-LGTH	C-DIA	REFERENCE	INFORMATION
(BTAR21)	AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL,N1R2C4	1.500	3.250	6.500	0.500	SREF	7.0686 50. IN.
(BTAR22)	AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL,N1R6C4	2.250	4.000	6.500	0.500	LREF	3.0000 INCHES
(BTAR17)	AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL,N1R6C2	2.250	4.000	5.000	0.500	BREF	3.0000 INCHES
						XMRP	0.0000 INCHES
						YMRP	0.0000 INCHES
						ZMRP	0.0000 INCHES
						SCALE	0.0000 NONE

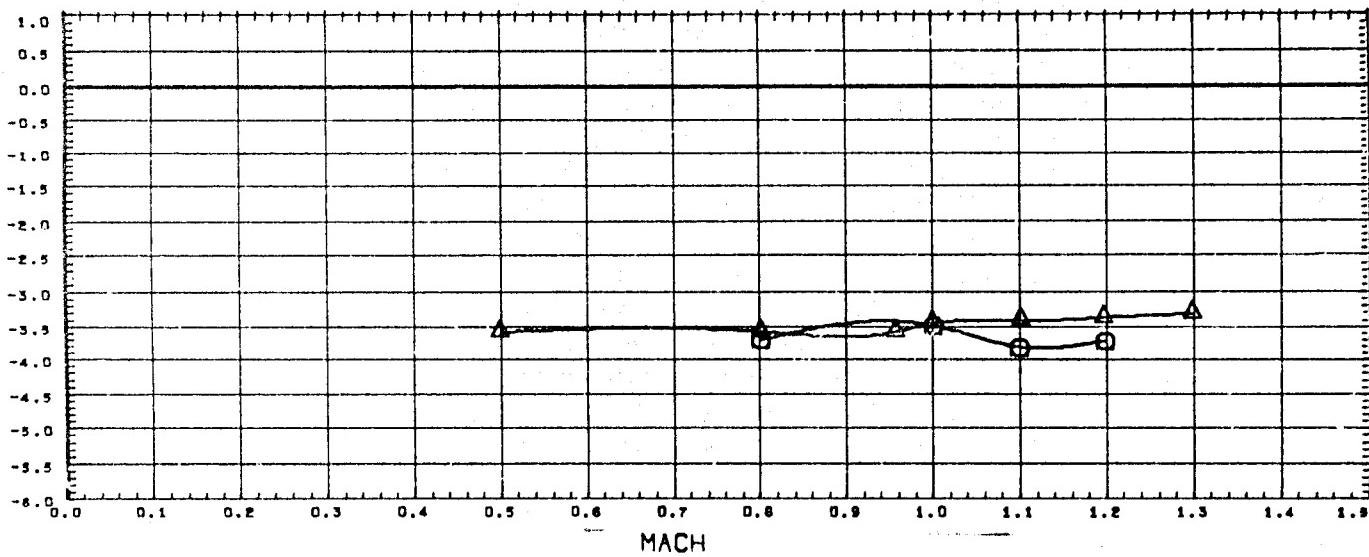
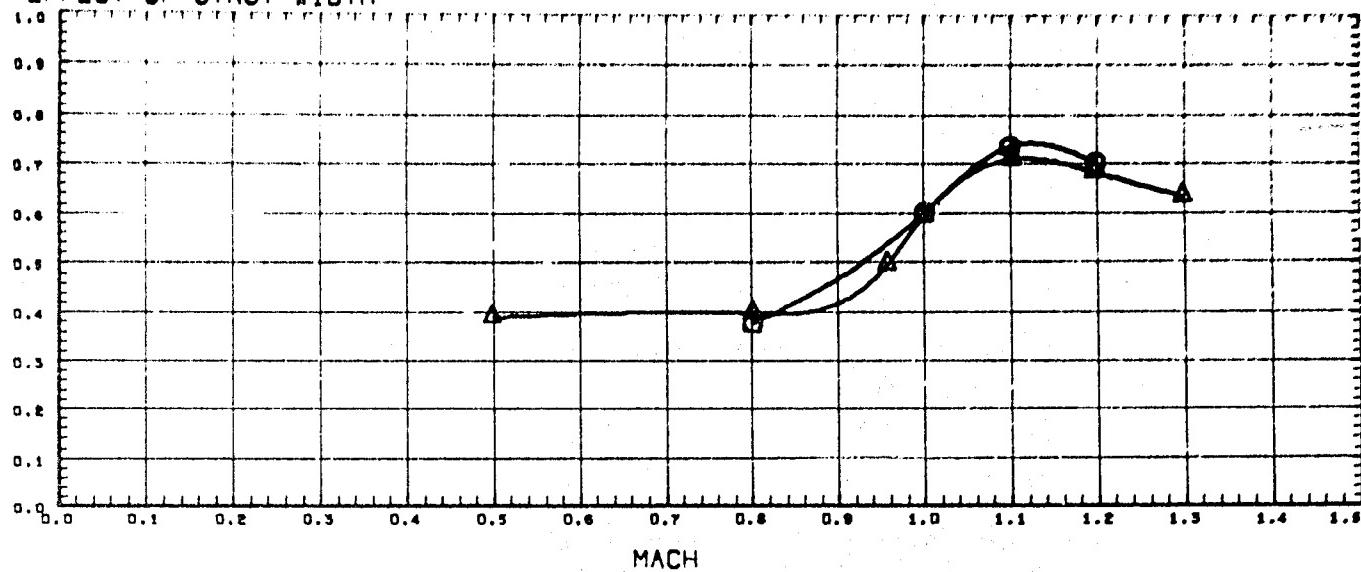
### EFFECT OF STRUT WIDTH



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	M-LGTH	S-WDTH	C-LGTH	C-DIA	REFERENCE	INFORMATION
(RTARD08)	AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL,NIR1C2	2.250	0.230	5.000	0.500	SREF	7.0686 SQ. IN.
(RTAR14)	AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL,NIR5C1	2.250	0.400	5.000	0.400	LREF	3.0000 INCHES

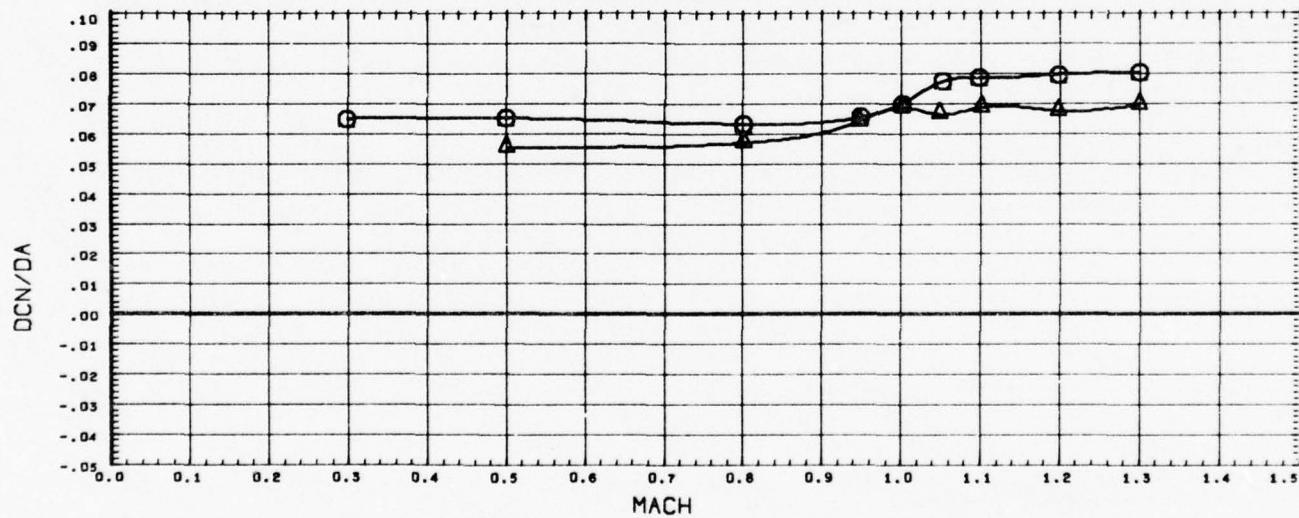
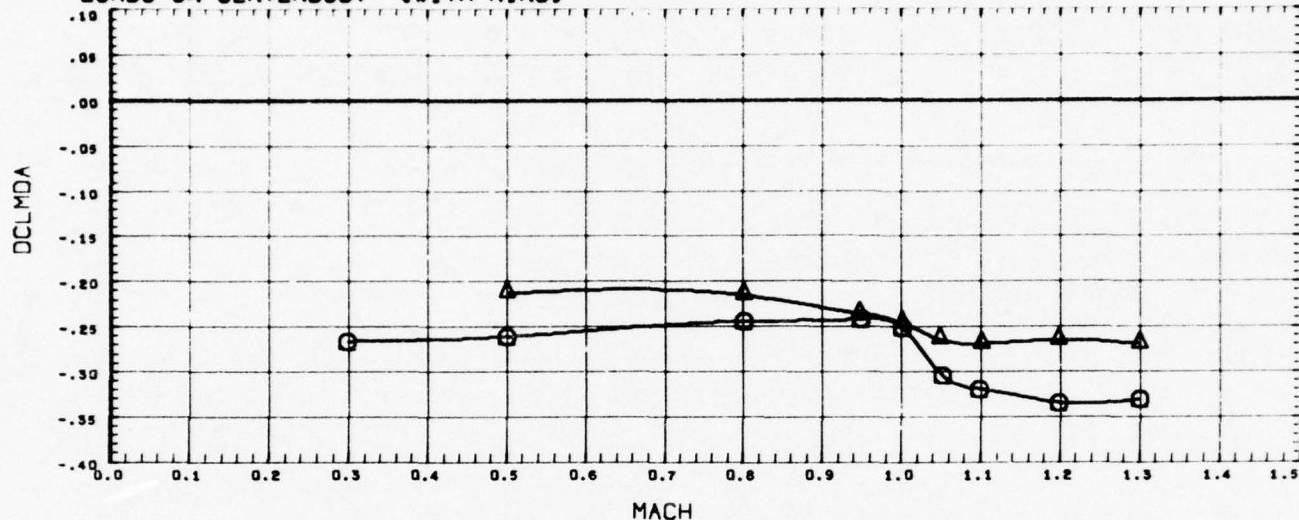
BREF 3.0000 INCHES  
XMRP 0.0000 INCHES  
YMRP 0.0000 INCHES  
ZMRP 0.0000 INCHES  
SCALE 0.0000 NONE

## EFFECT OF STRUT WIDTH



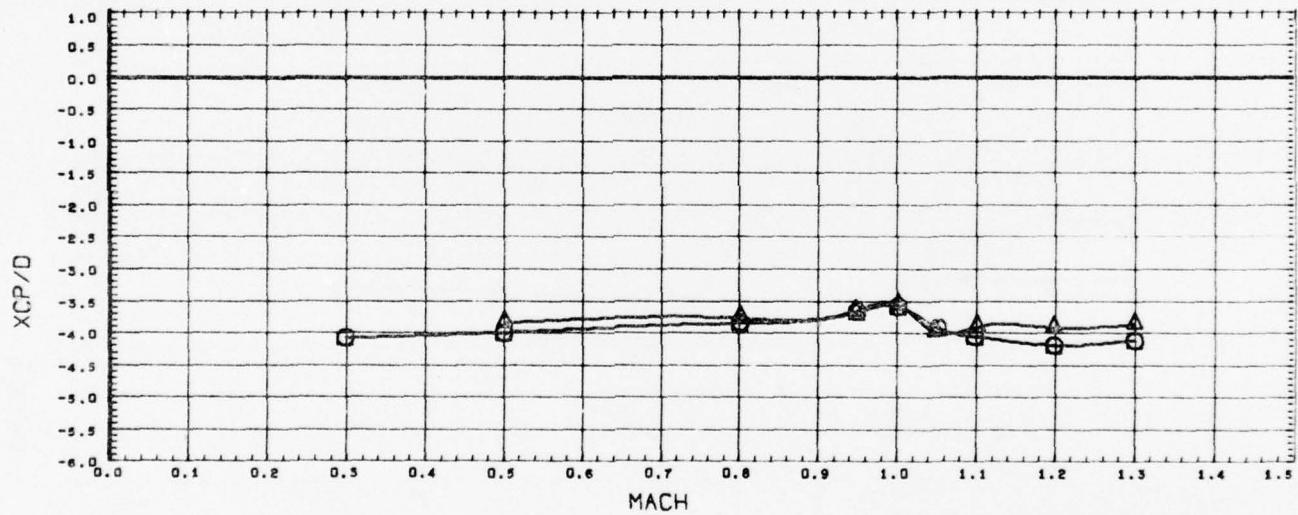
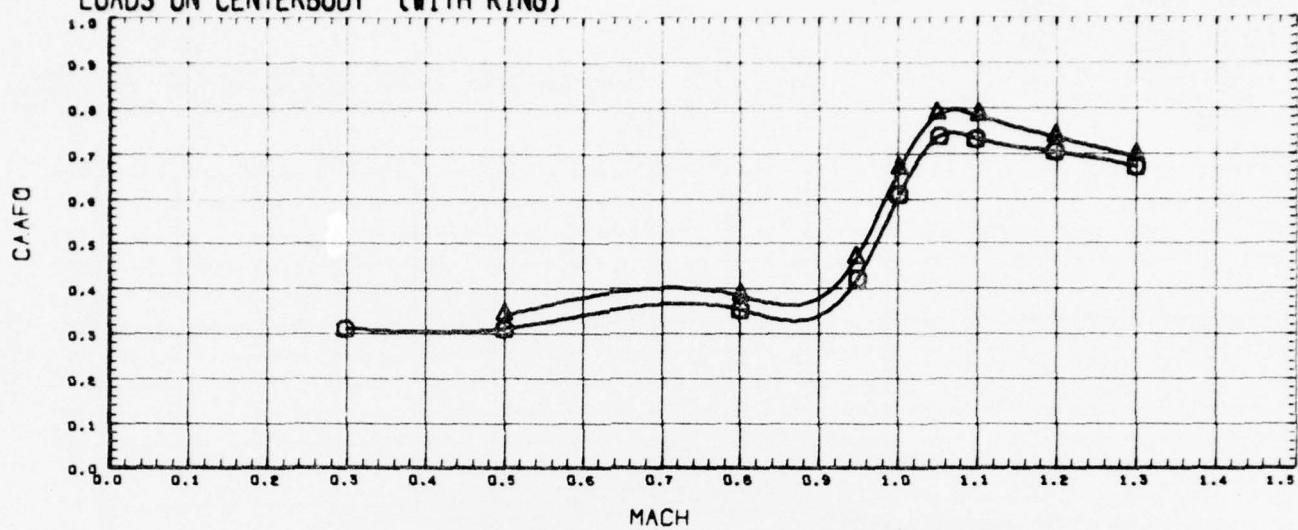
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	M-LGTH	S-WDTH	C-LGTH	C-DIA	REFERENCE INFORMATION
(BTAR08)	AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL,NIRIC2	2.250	0.200	5.000	0.500	SREF 7.0686 SQ.IN. LREF 3.0000 INCHES
(BTAR14)	AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL,NIR5C1	2.250	0.400	5.000	0.400	BREF 3.0000 INCHES XHPP 0.0000 INCHES YHPP 0.0000 INCHES ZHPP 0.0000 INCHES SCALE 0.0000 NONE

### LOADS ON CENTERBODY (WITH RING)

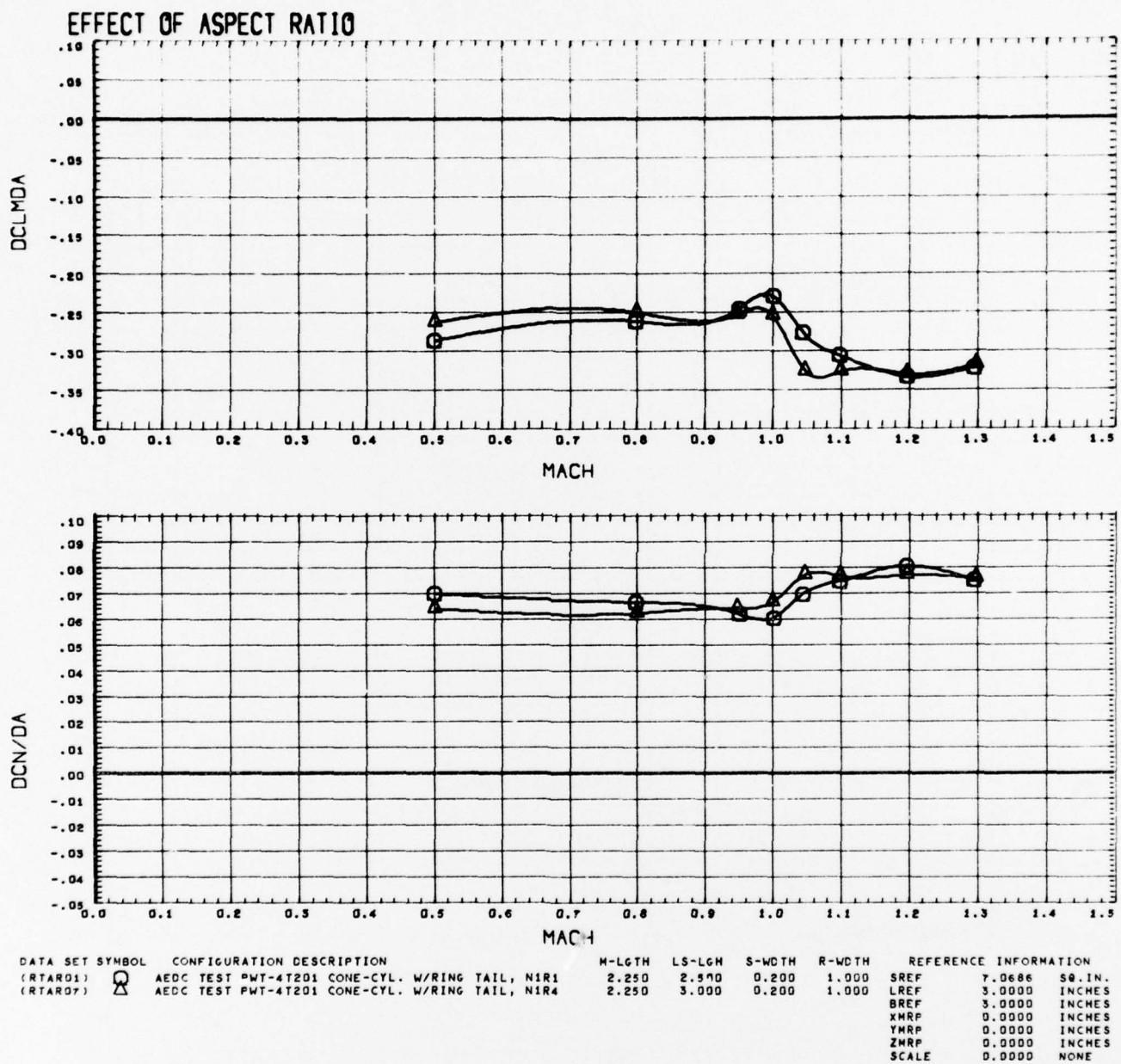


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	M-LGTH	LS-LGTH	C-LGTH	C-DIA	REFERENCE INFORMATION
(CTARD2)	AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL, NIR2	1.500	3.750			SREF 7.0686 SQ.IN.
(RTARD9)	AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL,NIR2C1	1.500	3.250	5.000	0.400	LREF 3.0000 INCHES
					BREF 3.0000 INCHES	
					XMRP 0.0000 INCHES	
					YMRP 0.0000 INCHES	
					ZMRP 0.0000 INCHES	
					SCALE 0.0000 NONE	

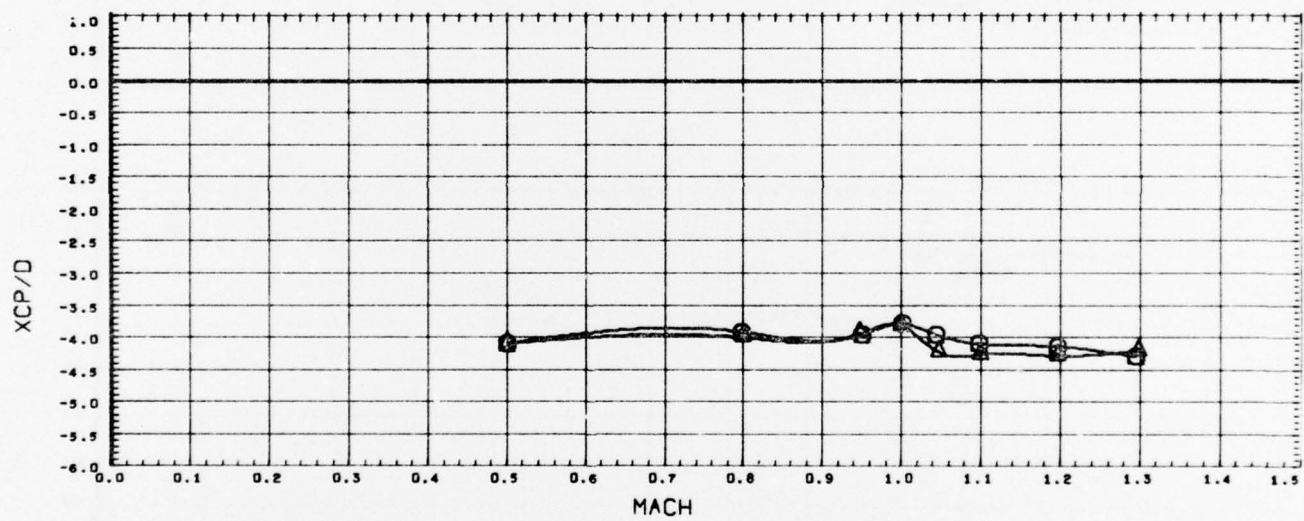
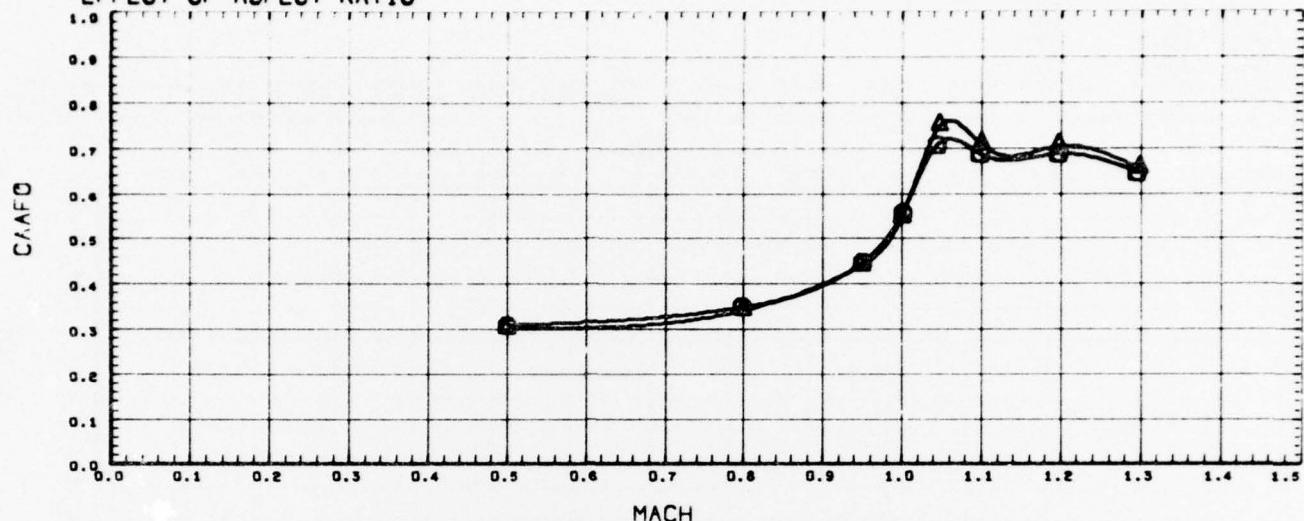
LOADS ON CENTERBODY (WITH RING)



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	M-LGTH	LS-LGTH	C-LGTH	C-DIA	REFERENCE INFORMATION
(BTARD2)	AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL, NIR2	1.500	3.250			SREF 7.0686 SQ.IN.
(BTARD9)	AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL,NIR2C1	1.500	3.250	5.000	0.400	LREF 3.0000 INCHES BREF 3.0000 INCHES XMRP 0.0000 INCHES YMRP 0.0000 INCHES ZMRP 0.0000 INCHES SCALE 0.0000 NONE

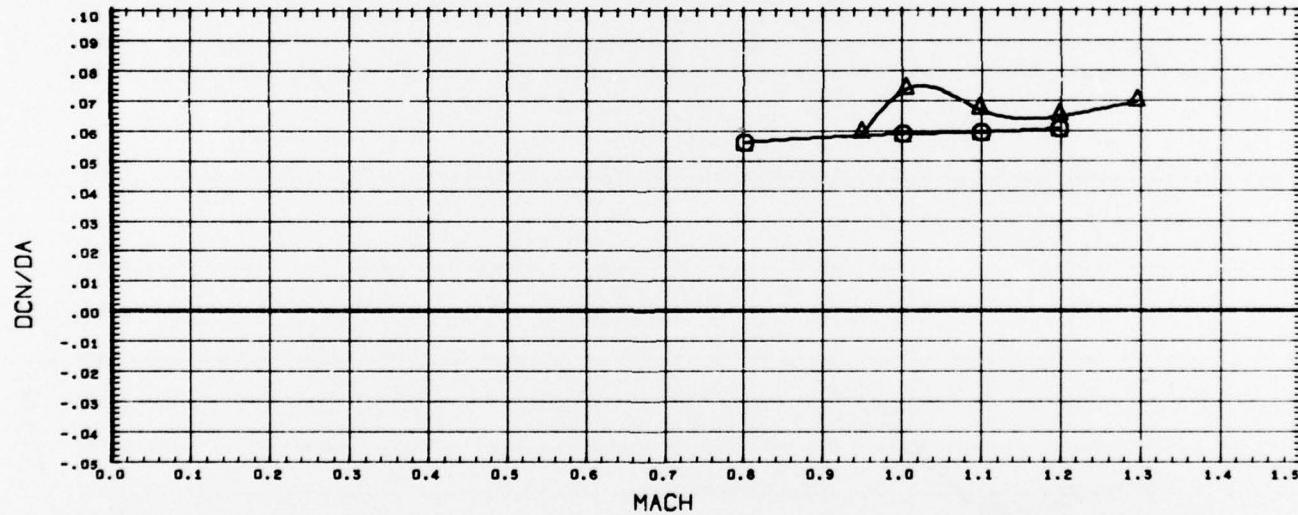
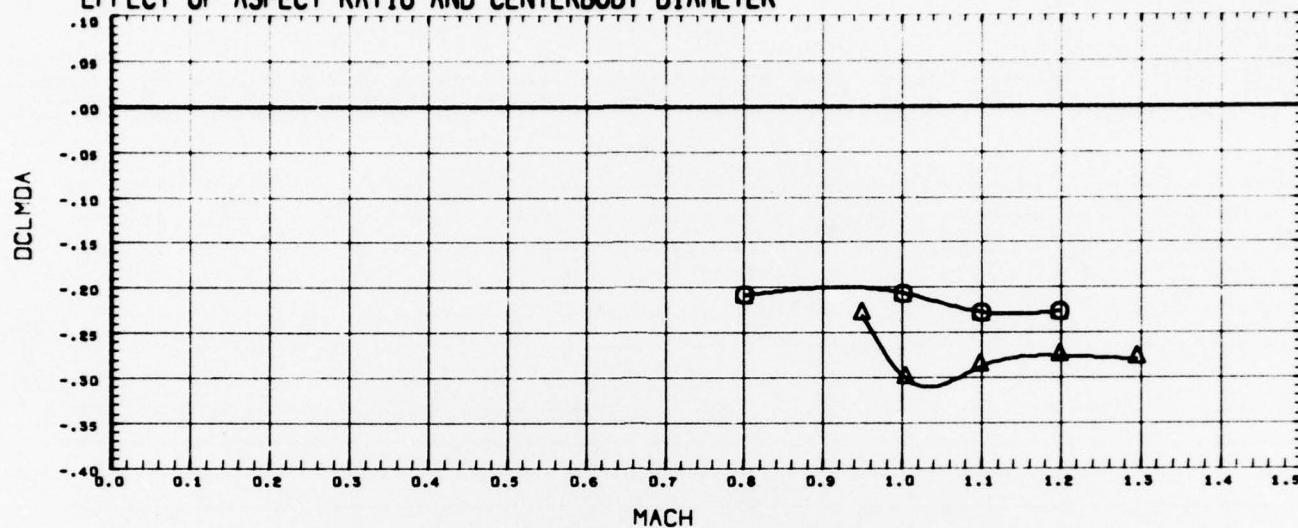


### EFFECT OF ASPECT RATIO



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	M-LGTH	LS-LGH	S-WDTH	R-WDTH	REFERENCE	INFORMATION
(BTARD1)	AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL, N1R1	2.250	2.000	0.200	1.000	SREF	7.0686 50. IN.
(BTARD7)	AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL, N1R4	2.250	3.000	0.200	1.000	LREF	3.0000 INCHES
						BREF	3.0000 INCHES
						XMRP	0.0000 INCHES
						YMRP	0.0000 INCHES
						ZMRP	0.0000 INCHES
						SCALE	0.0000 NONE

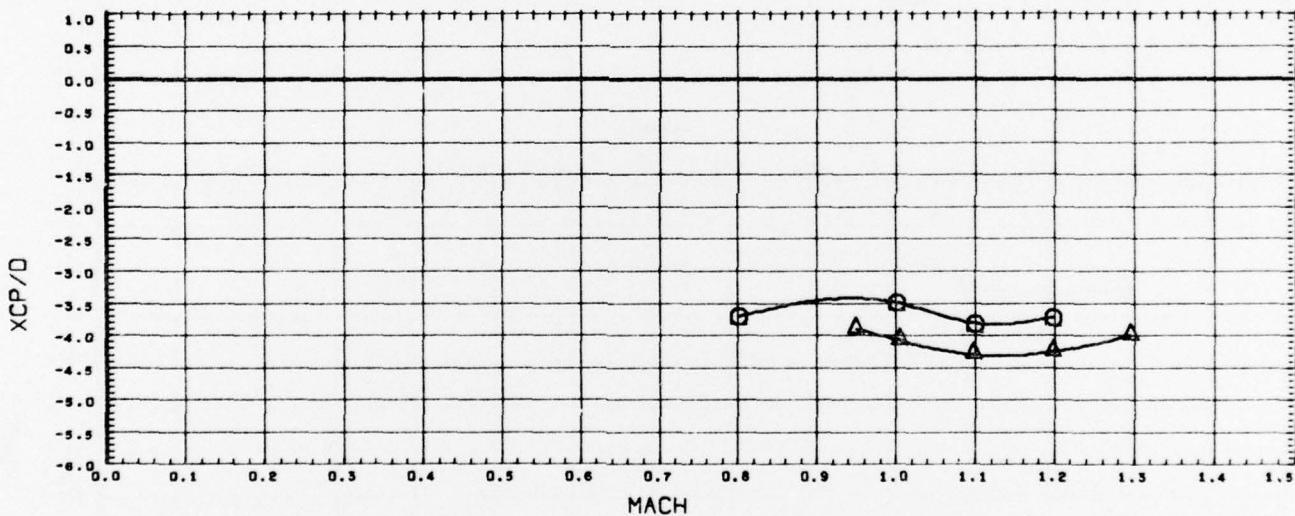
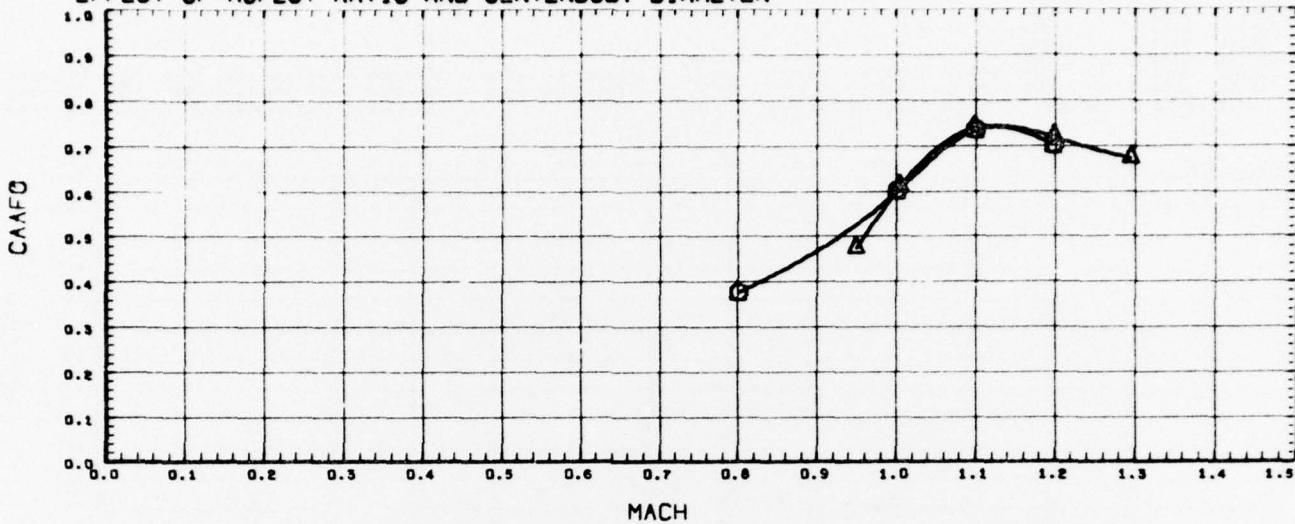
### EFFECT OF ASPECT RATIO AND CENTERBODY DIAMETER



DATA SET SYMBOL CONFIGURATION DESCRIPTION  
 (RTAR08) AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL,NIR1C2  
 (RTAR13) AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL,NIR4C1

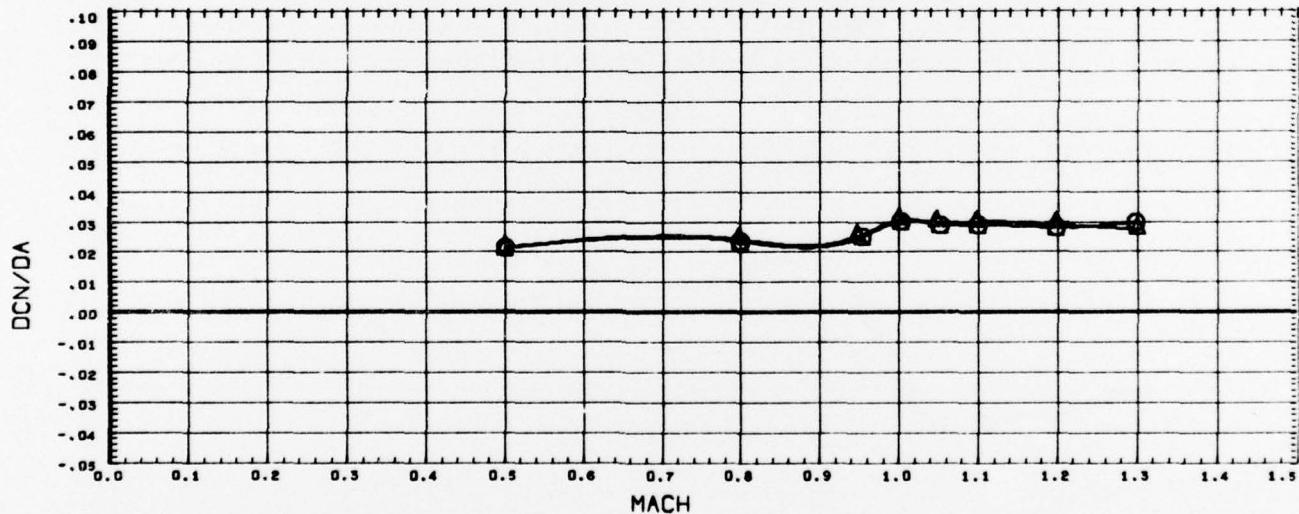
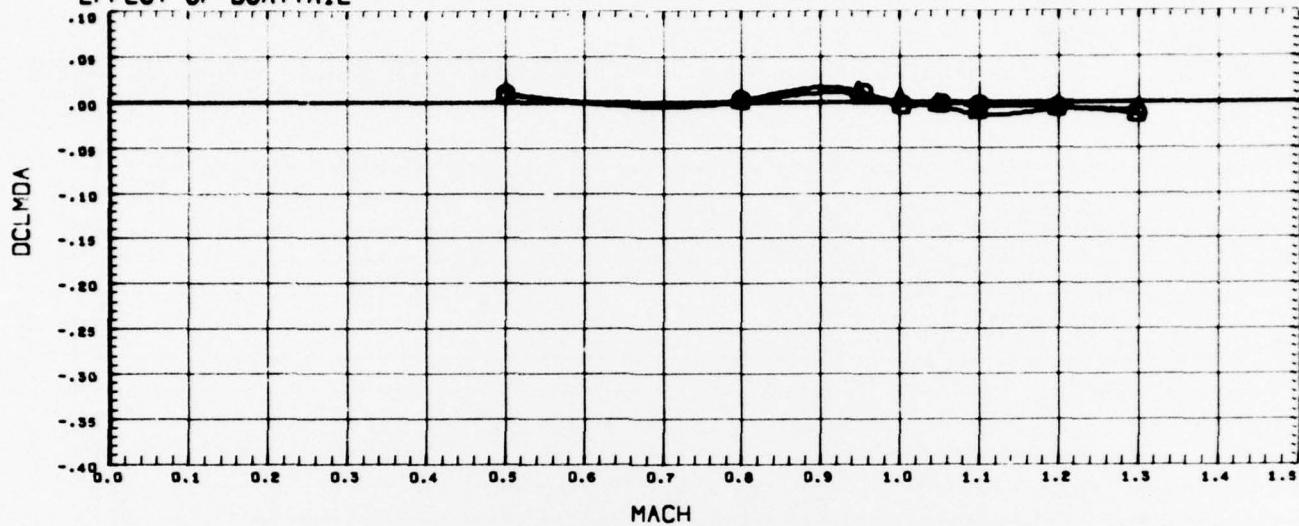
PHI	M-LGTH	C-LGTH	C-DIA	REFERENCE INFORMATION
0.000	2.250	5.000	0.500	SREF 7.0686 SQ.IN.
0.000	2.250	5.000	0.400	LREF 3.0000 INCHES
				BREF 3.0000 INCHES
				XMRP 0.0000 INCHES
				YMRP 0.0000 INCHES
				ZMRP 0.0000 INCHES
				SCALE 0.0000 NONE

### EFFECT OF ASPECT RATIO AND CENTERBODY DIAMETER



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	M-LGTH	C-LGTH	C-DIA	REFERENCE INFORMATION
(BTAR08)	AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL,N1R1C2	0.000	2.250	5.000	0.500	SREF 7.0686 58. IN. LREF 3.0000 INCHES BREF 3.0000 INCHES XMRP 0.0000 INCHES YMRP 0.0000 INCHES ZMRP 0.0000 INCHES SCALE 0.0000 NONE
(BTAR13)	AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL,N1R4C1	0.000	2.250	5.000	0.400	

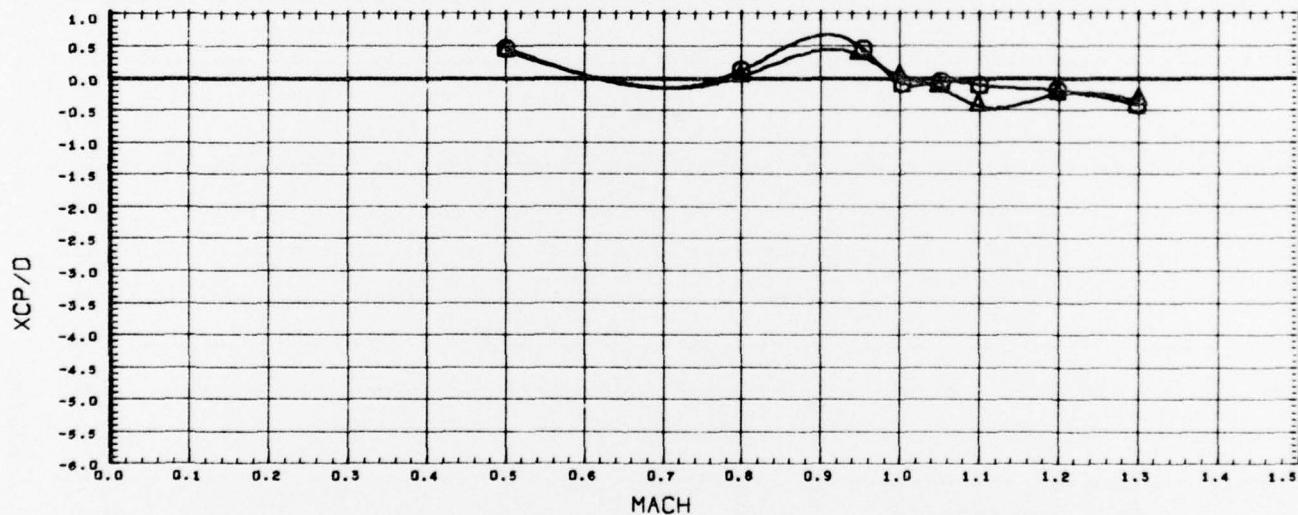
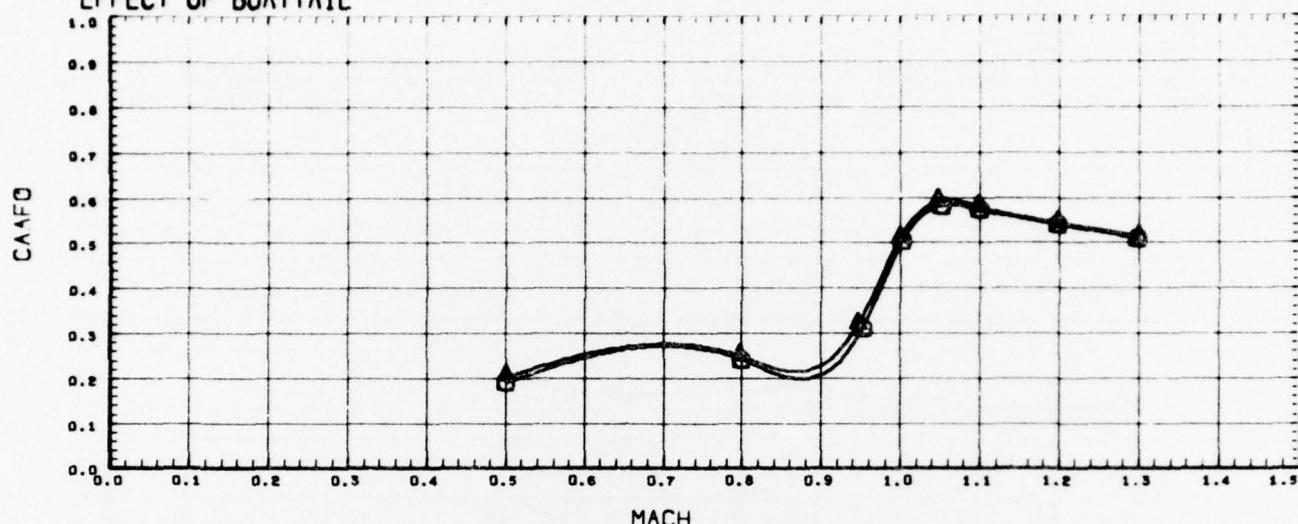
## EFFECT OF BOATTAIL



DATA SET SYMBOL CONFIGURATION DESCRIPTION  
 (CTAM06) AEDC TEST PWT-4T201 CONE-CYLINDER, N1H2C1  
 (RTAM08) AEDC TEST PWT-4T201 CONE-CYLINDER, N1H2B1C1

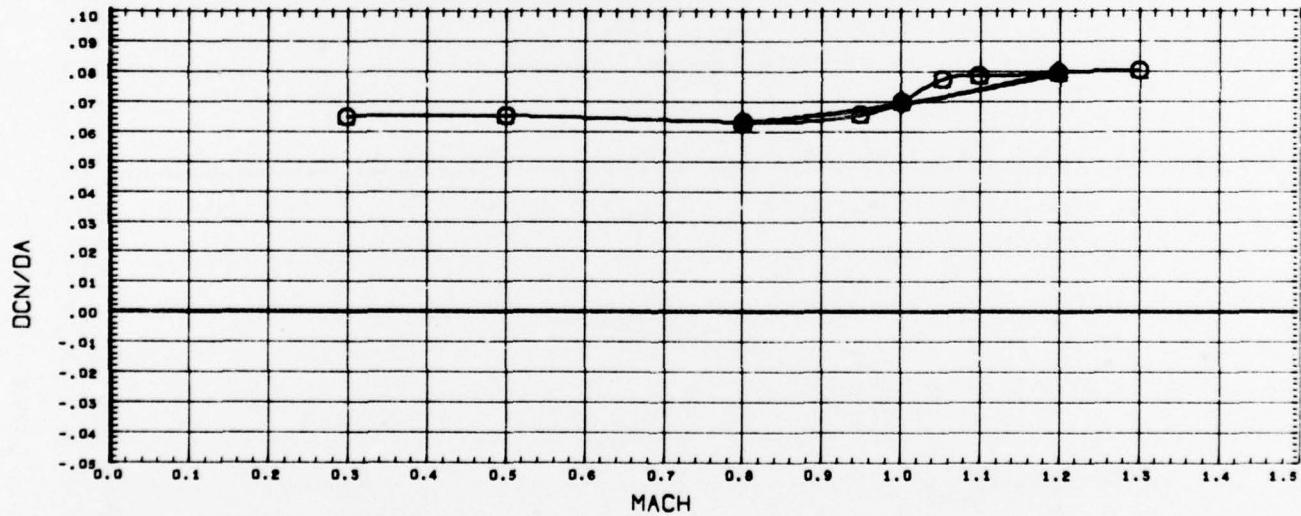
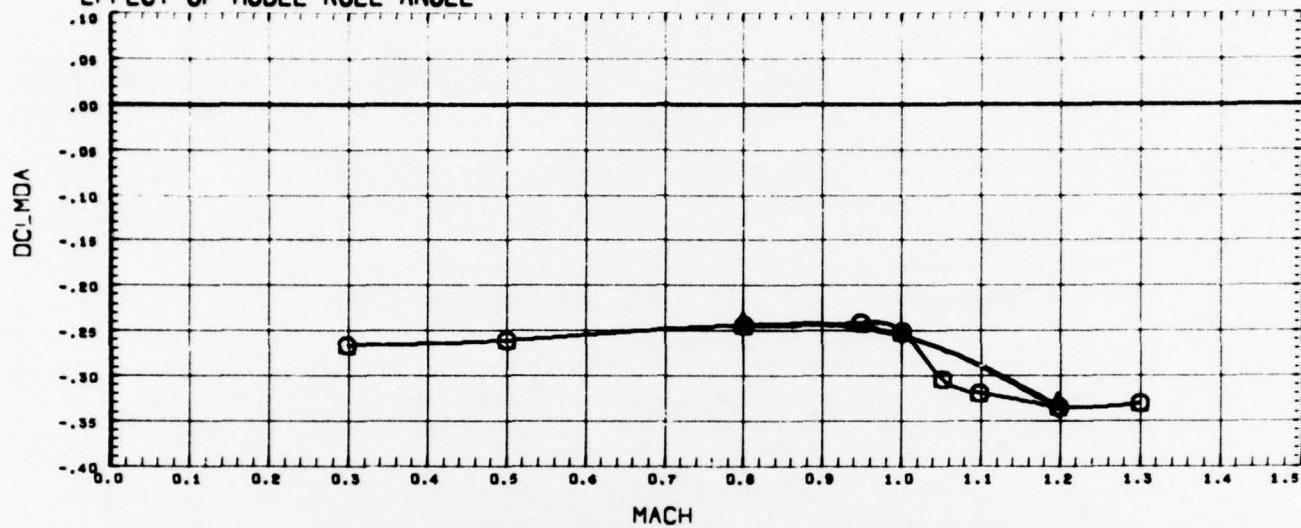
M-LGTH	LS-LGH	C-LGTH	C-DIA	REFERENCE INFORMATION
1.500	5.000	0.400	SREF	7.0686 SQ. IN.
1.500	5.000	0.400	LREF	3.0000 INCHES
			BREF	3.0000 INCHES
			XNRP	0.0000 INCHES
			YNRP	0.0000 INCHES
			ZNRP	0.0000 INCHES
			SCALE	0.0000 NONE

## EFFECT OF BOATTAIL



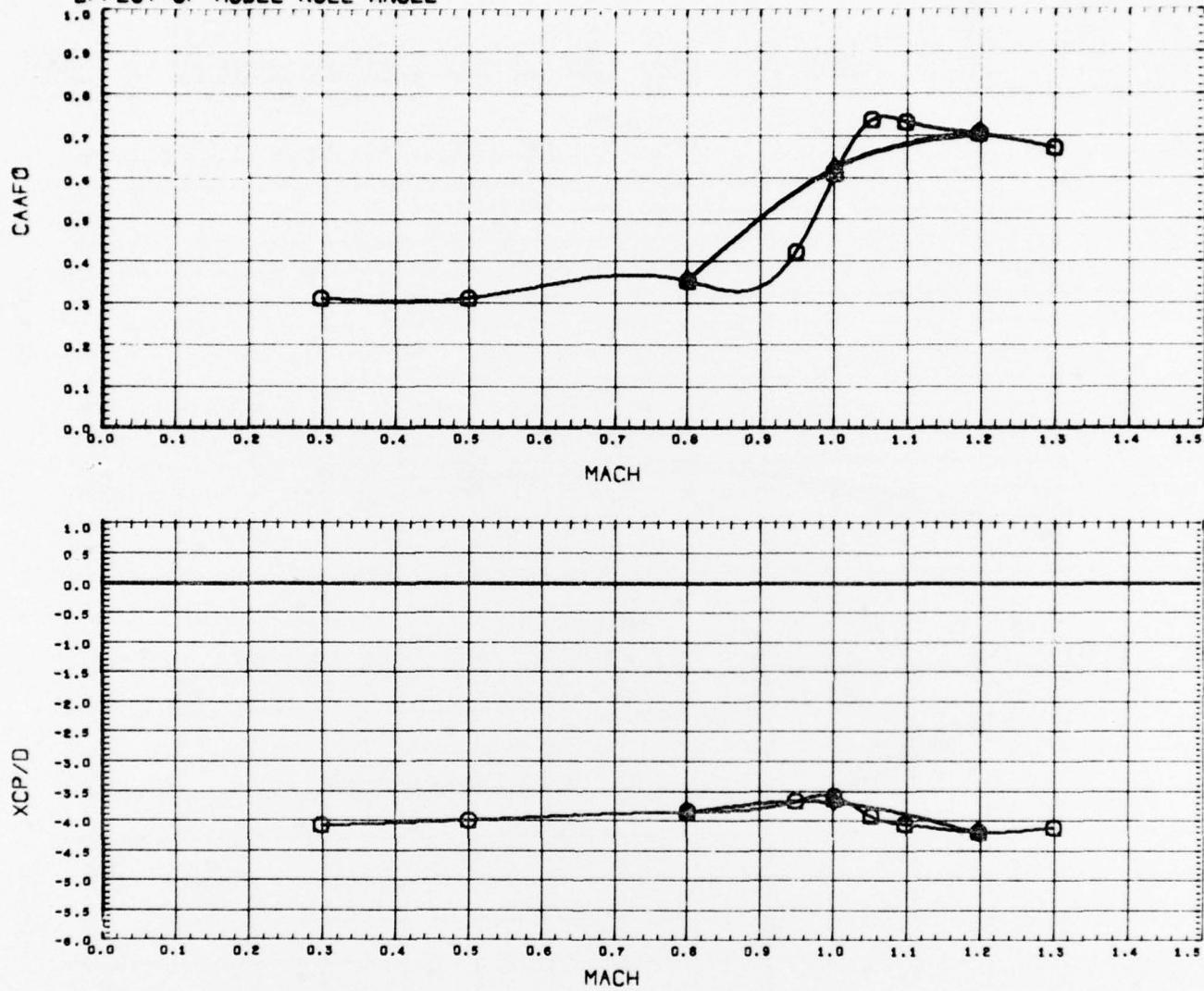
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	M-LGTH	LS-LGH	C-LGTH	C-DIA	REFERENCE INFORMATION
(BTAM06)	AEDC TEST PWT-4T201 CONE-CYLINDER, N1M2C1	1.500	5.000	0.400	SREF	7.0686 SQ. IN.
(BTAM08)	AEDC TEST PWT-4T201 CONE-CYLINDER, N1M2B1C1	1.500	5.000	0.400	LREF	3.0000 INCHES
					BREF	3.0000 INCHES
					XNRP	0.0000 INCHES
					YNRP	0.0000 INCHES
					ZNRP	0.0000 INCHES
					SCALE	0.0000 NONE

### EFFECT OF MODEL ROLL ANGLE



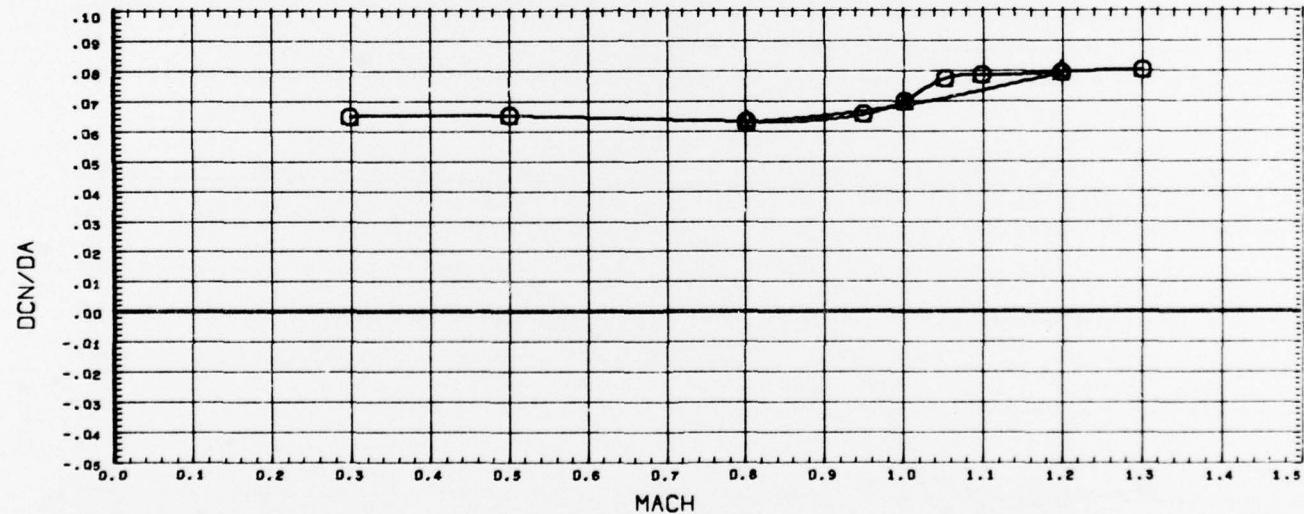
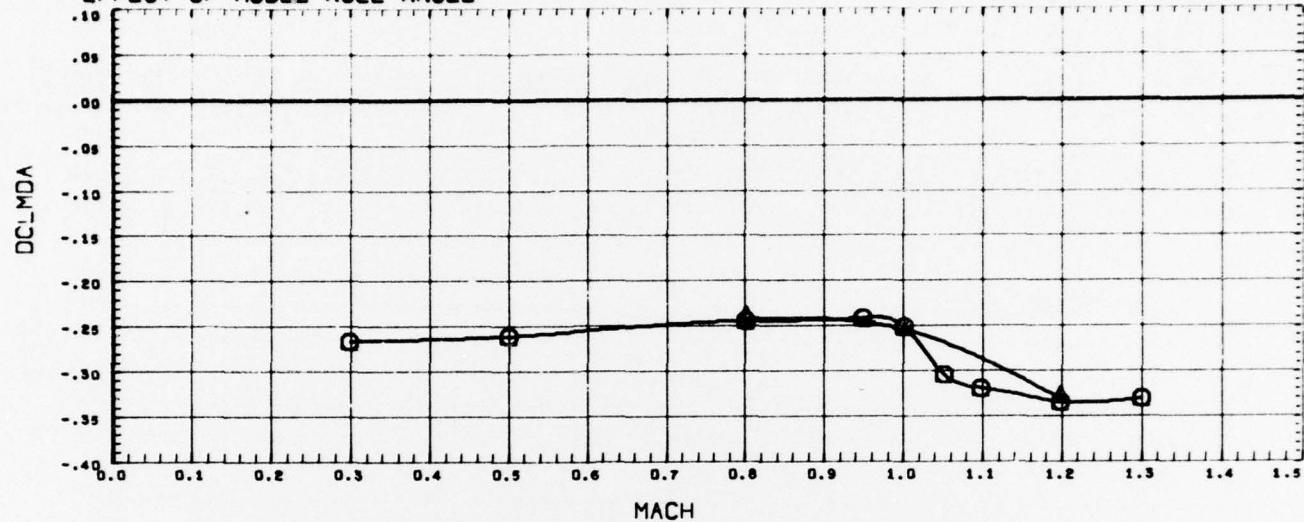
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	M-LGTH	LS-LGH	REFERENCE INFORMATION
(C) CCTAR02	AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL, NIR2	0.000	1.500	3.250	SREF 7.0686 \$0. IN.
(+) CCTAR03	AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL, NIR2	22.500	1.500	3.250	LREF 3.0000 INCHES
(O) CCTAR04	AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL, NIR2	45.000	1.500	3.250	BREF 3.0000 INCHES
					XHRP 0.0000 INCHES
					YHRP 0.0000 INCHES
					ZHRP 0.0000 INCHES
					SCALE 0.0000 NONE

### EFFECT OF MODEL ROLL ANGLE



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	M-LGTH	LS-LGH	REFERENCE INFORMATION
(BTARD2)	AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL, NIR2	0.000	1.500	3.250	SREF 7.0866 SQ. IN.
(BTARD3)	AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL, NIR2	22.500	1.500	3.250	LREF 3.0000 INCHES
(BTARD4)	AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL, NIR2	45.000	1.500	3.250	BREF 3.0000 INCHES
					XHREF 0.0000 INCHES
					YHREF 0.0000 INCHES
					ZHREF 0.0000 INCHES
					SCALE 0.0000 NONE

### EFFECT OF MODEL ROLL ANGLE



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(CTARD2) Q AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL, N1R2 0.000 1.500 3.250

(RTARD5) R AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL, N1R2 100.000 1.500 3.250

PHI M-LGTH LS-LGH

REFERENCE INFORMATION

SREF 7.0686 SQ. IN.

LREF 3.0000 INCHES

BREF 3.0000 INCHES

XMRP 0.0000 INCHES

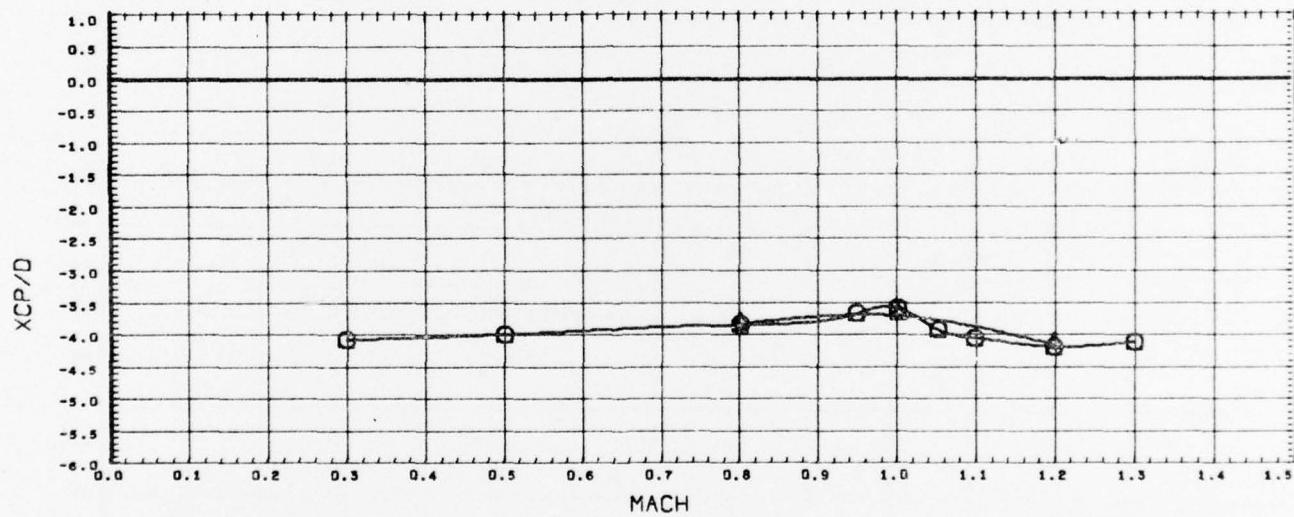
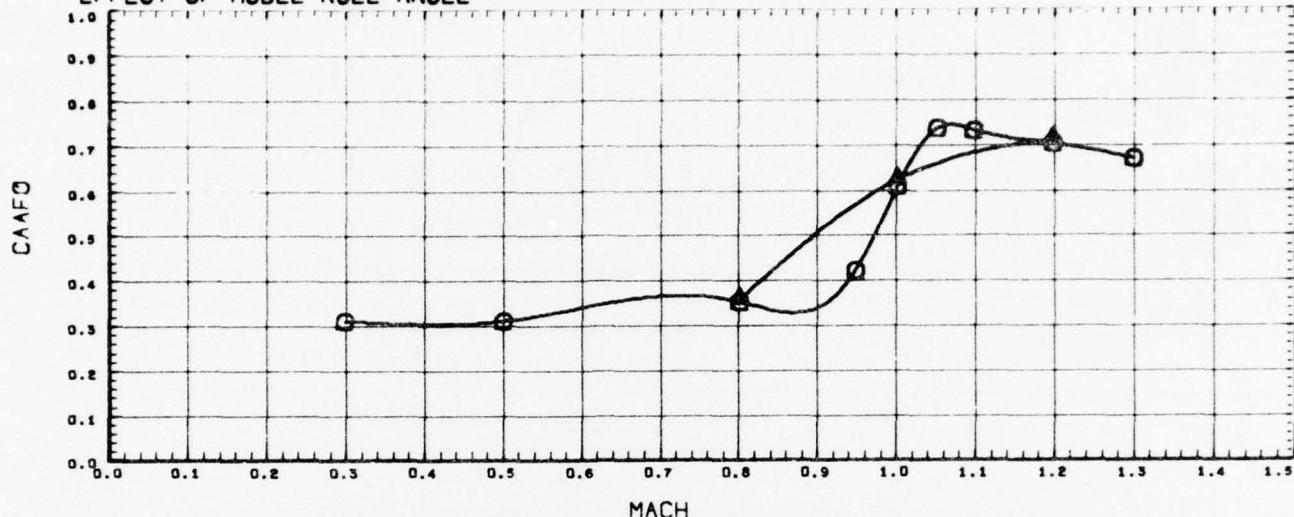
YMRP 0.0000 INCHES

ZMRP 0.0000 INCHES

SCALE 0.0000 NONE

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### EFFECT OF MODEL ROLL ANGLE



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(BTAR02) AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL, NIR2  
(BTAR05) AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL, NIR2

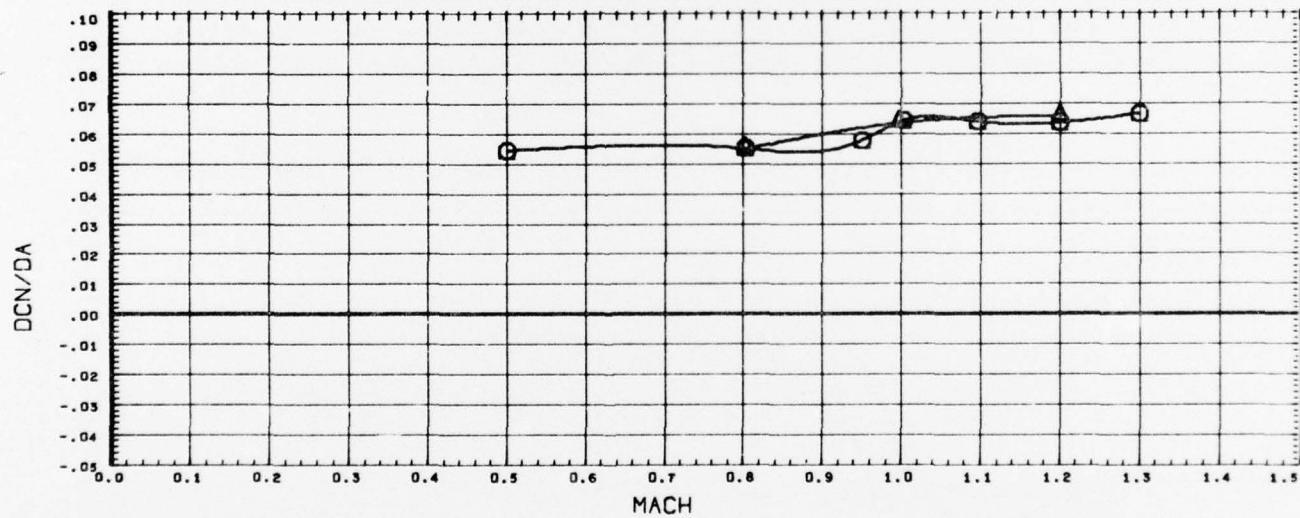
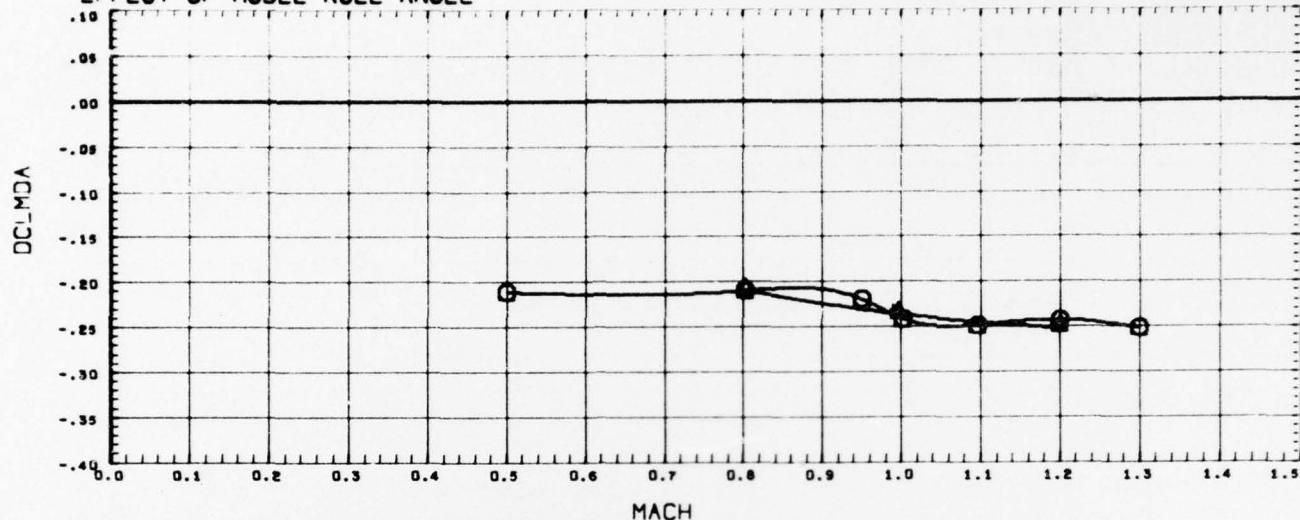
PHI M-LGTH LS-LGH

0.000 1.500 3.250  
180.000 1.500 3.250

REFERENCE INFORMATION

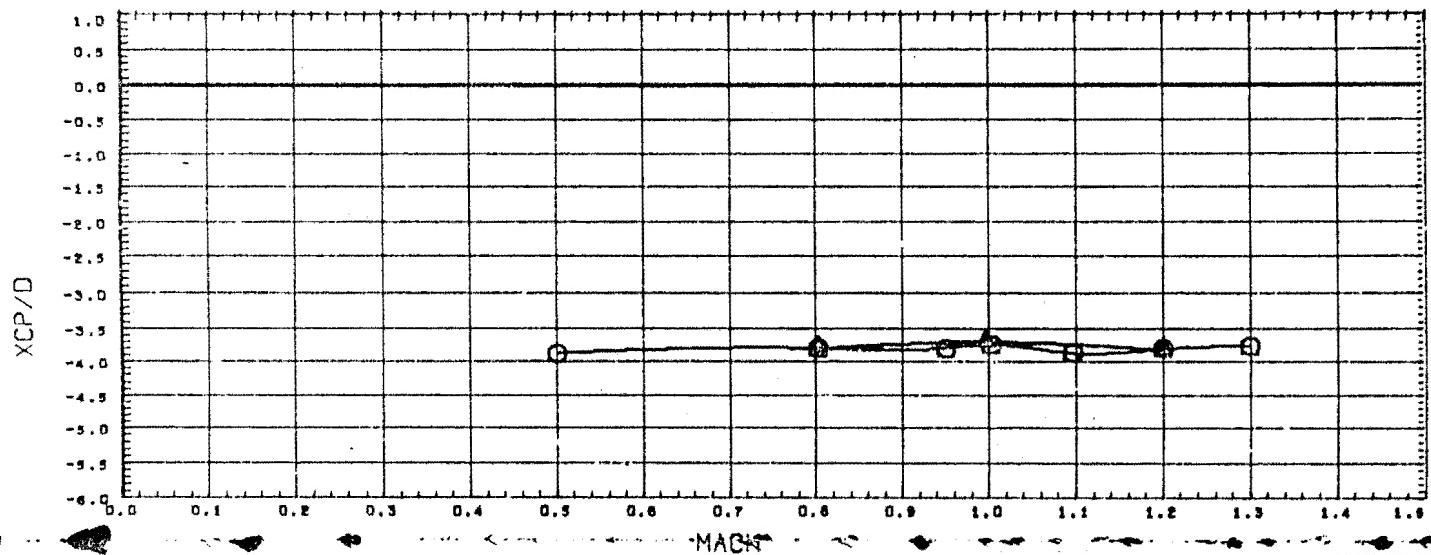
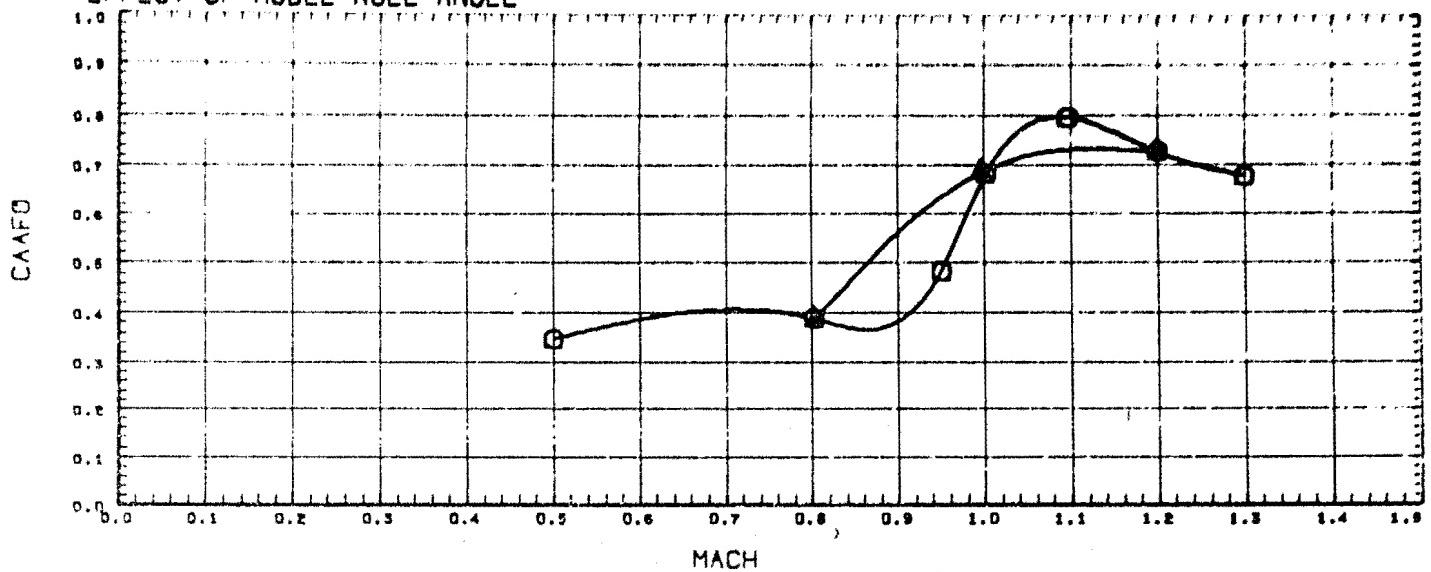
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LREF	3.0000	INCHES
BREF	3.0000	INCHES
XMRP	0.0000	INCHES
YMRP	0.0000	INCHES
ZMRP	0.0000	INCHES
SCALE	0.0000	NONE

### EFFECT OF MODEL ROLL ANGLE



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	M-LGTH	LS-LGH	REFERENCE INFORMATION
(RTAR18)	AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL,N1R2C2	0.000	1.500	3.250	SREF 7.0686 SQ. IN.
(RTAR19)	AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL,N1R2C2	45.000	1.500	3.250	LREF 3.0000 INCHES
				BREF 3.0000 INCHES	
				XMRP 0.0000 INCHES	
				YMRP 0.0000 INCHES	
				ZMRP 0.0000 INCHES	
				SCALE 0.0000 NONE	

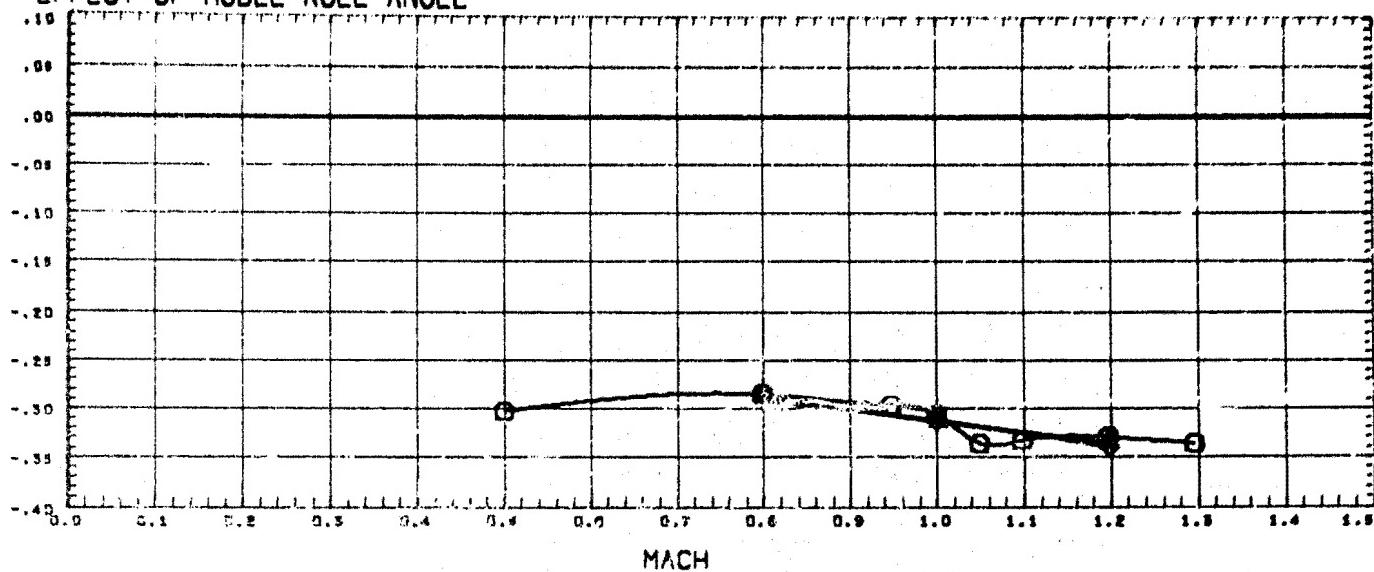
## EFFECT OF MODEL ROLL ANGLE



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	H-LGTH	L5-LGH	REFERENCE INFORMATION
(BTAR18)	AEDC TEST PWT-4T2D1 CONE-CYL. W/RING TAIL,N1R2C2	0.000	1.530	3.250	SREF 7.0686 50. IN.
(BTAR19)	AEDC TEST PWT-4T2D1 CONE-CYL. W/RING TAIL,N1R2C2	45.000	1.530	3.250	LREF 3.0000 INCHES
				BREF 3.0000 INCHES	
				XHRP 0.0000 INCHES	
				YHRP 0.0000 INCHES	
				ZHRP 0.0000 INCHES	
				SCALE 0.0000 NONE	

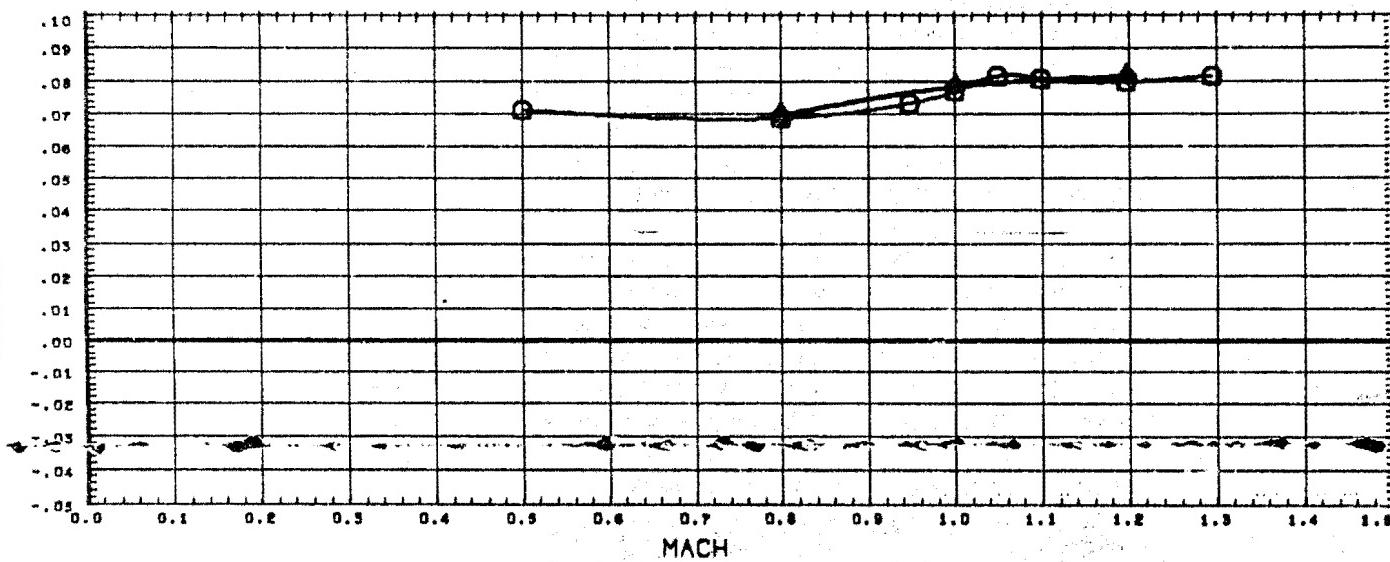
## EFFECT OF MODEL ROLL ANGLE

UCLM/DA



MACH

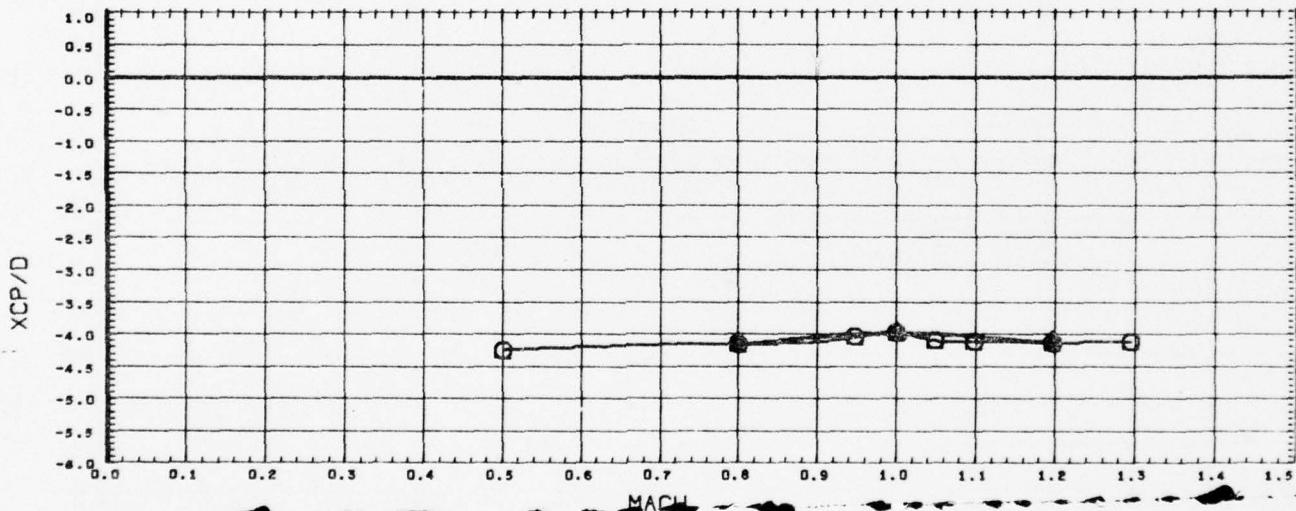
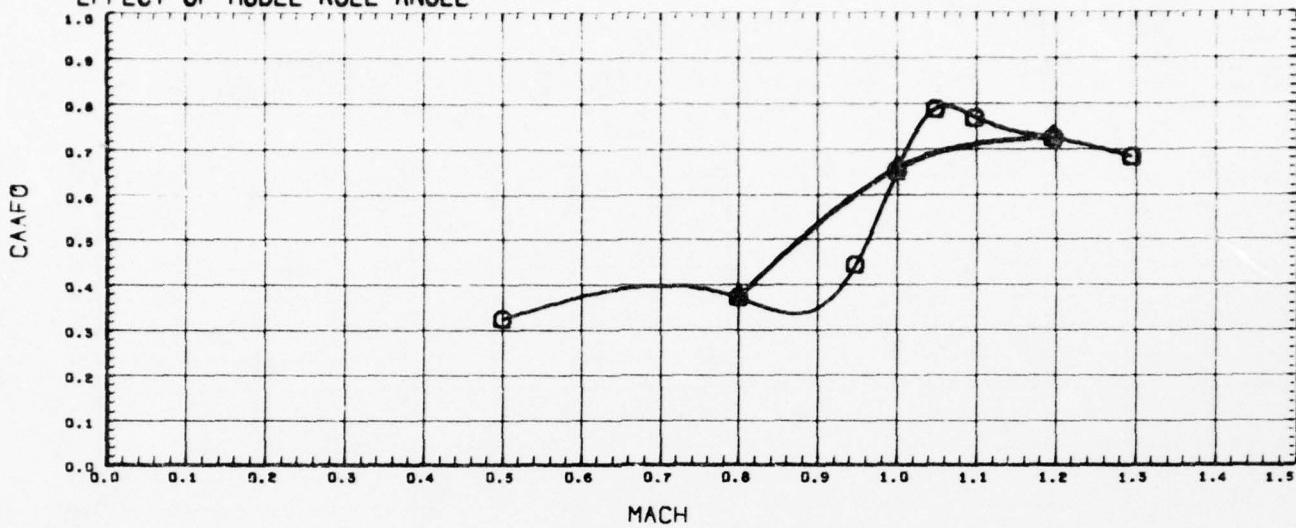
UCN/DA



MACH

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	H-LGTH	L8-LGH	REFERENCE INFORMATION
(RTAR25)	AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL,NIR2C5	0.000	1.500	3.250	SREF 7.0886 58.IN.
(RTAR26)	AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL,NIR2C5	22.500	1.500	3.250	LREF 3.0000 INCHES
(RTAR27)	AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL,NIR2C5	45.000	1.500	3.250	BREF 3.0000 INCHES
					XRP 0.0000 INCHES
					YRPP 0.0000 INCHES
					ZRPP 0.0000 INCHES
					SCALE 0.0000 NONE

### EFFECT OF MODEL ROLL ANGLE



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	M-LGTH	LS-LGH	REFERENCE INFORMATION
(BTAR25)	AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL,NIR2CS.	0.000	1.500	3.250	SREF 7.0666 SR. IN.
(BTAR26)	AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL,NIR2CS	22.500	1.500	3.250	LREF 3.0000 INCHES
(BTAR27)	AEDC TEST PWT-4T201 CONE-CYL. W/RING TAIL,NIR2CS	45.000	1.500	3.250	BREF 3.0000 INCHES
					XNRP 0.0000 INCHES
					YNRP 0.0000 INCHES
					ZNRP 0.0000 INCHES
					SCALE 0.0000 NONE